

1938



CITY AND COUNTY OF BRISTOL

---

HEALTH COMMITTEE

PORT HEALTH SUB-COMMITTEE

MATERNITY AND CHILD WELFARE SUB-COMMITTEE

EDUCATION COMMITTEE

HOUSING COMMITTEE

MENTAL DEFICIENCY ACTS COMMITTEE

JOINT CO-ORDINATION OF MEDICAL SERVICES  
SUB-COMMITTEE

AIR RAID PRECAUTIONS COMMITTEE

**Principal Medical Officer :**

R. H. Parry, M.D., B.S., M.R.C.P. (Lond.), D.P.H.

**Town Clerk :**

Josiah Green, Esq.

5905



# CONSTITUTION OF COMMITTEES.

## Health Committee.

### Chairman—

Alderman J. J. Milton, J.P.\*†‡

### Vice-Chairman—

Alderman E. T. Cozens, J.P.\*†‡

Alderman T. J. Wise†

Councillor G. A. W. Allan\*†‡

„ L. H. Bateman

„ Henley Evans†

„ A. G. Farmer

„ Miss A. M. F. Hall-  
Houghton†‡

„ R. N. Harrison\*

„ Mrs. M. A. Hennessy†‡

„ T. Jefferis\*†

„ Mrs. C. M. Keel†‡

„ Mrs. A. E. Nutt†‡

„ R. St. John Reade, M.A.\*

„ V. J. Robinson\*

„ Sir L. A. Goodenough  
Taylor, J.P.\*†‡

„ Mrs. E. M. Ververs†

## Education Committee.

### Chairman—

Councillor F. C. Williams†

### Vice-Chairman—

Councillor A. C. K. Toms, M.A.†

Alderman W. H. Ackland, J.P.

„ R. G. Cunningham

„ Sir J. H. Inskip, K.B.E.,  
B.A.

„ F. Sheppard, C.B.E., M.A.

„ T. H. J. Underdown, M.A.,  
J.P.§†

Councillor Mrs. F. M. Brown§†

„ A. W. Cox

„ R. R. Cunningham

„ E. F. Davey

„ Mrs. Dobson§†

„ J. Donovan

„ Henley Evans

„ H. R. Griffiths, O.B.E.

„ Mrs. A. E. Nutt

„ Mrs. Salt§†

„ R. St. John Reade, M.A.

„ A. L. H. Smith, J.P.§†

„ Sir L. A. Goodenough  
Taylor, M.A., J.P.

„ W. A. Wilkins§†

„ T. Thornton Wills

### Co-opted Members of Education Committee—

Rev. H. L. Bothamley, M.A., Miss N. Britton, Professor J. E. V. Crofts, B.A.

Rev. Dr. A. Dakin, Canon W. Dillon,§† M. Giles, Esq., J.P.,§† Professor

Andrew Robertson, D.Sc., W. R. Straker, Esq., M.A., J.P.,§†

Mrs. A. K. L. Venning.

\* Also member of Port Health sub-committee.

† „ Maternity and Child Welfare sub-committee.

‡ „ Joint Co-ordination of Medical Services sub-committee.

§ „ Education (Medical Services) sub-committee.

## Housing Committee.

### Chairman—

Alderman C. R. Gill

Alderman J. E. Jones, J.P.

„ F. Sheppard, C.B.E., M.A.

„ R. F. Lyne

Councillor K. A. L. Brown

„ H. L. Cook

„ A. G. Heard

„ T. Jefferis

„ G. A. Martin

„ D. Price

„ Mrs. Salt

„ H. A. Wall

## Mental Deficiency Acts Committee.

### Chairman—

Councillor A. Jones.

Alderman W. A. Winchester, J.P.

„ W. H. Byrt, J.P.

Councillor F. J. Burgess

„ Mrs. D. P. Dobson, J.P.

„ G. H. Johnson

„ Mrs. A. A. Nunn

„ W. S. Scull

„ W. T. Wright

### Co-opted Members.

Mrs. Watson Allen

Mrs. A. E. M. Hampton

Mrs. V. E. Pullin

## Air Raid Precautions Medical Services Sub-Committee.

### Chairman—

Alderman H. J. Maggs, J.P.

„ F. Sheppard, C.B.E., M.A.

„ Sir John Inskip, K.B.E., B.A.

Councillor K. A. L. Brown

„ Mrs. A. E. Nutt

„ H. E. Rogers

## PUBLIC HEALTH STAFF.

---

**Medical Officer of Health (City, Port and Schools) :**

R. H. Parry, M.D., B.S., M.R.C.P. (Lond.), D.P.H.

**Deputy Medical Officer of Health :**

I. G. Davies, M.B., M.R.C.P. (Lond.), D.P.H.

**Principal Medical Assistants :**

*Assistant Medical Officer of Health :*

F. W. Bunting, M.B., Ch.B., D.P.H.

*Air Raid Precautions :*

E. T. Glenney, M.B., B.S., M.R.C.S., L.R.C.P.

*Maternity and Child Welfare :*

Marguerite G. Hughes, M.B., Ch.B.

*School Medical Service :*

A. A. Dalby, M.C., M.R.C.S., L.R.C.P.

*Chest Specialist :*

C. J. C. Faill, F.R.C.P.Ed.

*Venereal Disease :*

S. H. Kingston, M.B., Ch.B., D.P.H.\*

*Bacteriology :*

K. E. Cooper, B.Sc., Ph.D., L.R.C.P., M.R.C.S., A.I.C.

*Clinical Pathology :*

Dorothy Woodman, M.D., M.Sc., M.R.C.S., L.R.C.P.

*Ham Green Hospital and Sanatorium :*

B. A. I. Peters, B.A., M.D., B.C., D.P.H.

*Southmead General Hospital :*

P. Phillips, M.Sc., M.D., Ch.B.

*Frenchay Park Sanatorium :*

Constance I. Ham, M.B., Ch.B., F.R.C.S.

*Babies' Home :*

Greta Hartley, M.D., M.M.

*Residential Nursery :*

A. Alison Craig, M.B., B.S., D.P.H., D.C.H.

Administrative Assistant : J. G. Watson.

**Other Principal Assistants.**

*Public Analyst :*

F. E. Needs, F.I.C.

*Chief Sanitary Inspector :*

J. A. Robinson, F.S.I.A.

*Principal Sister and Superintendent Health Visitor :*

Miss I. M. Ralph.

*Veterinary Surgeon :*

G. E. Henson, M.R.C.V.S.\*

\* part-time appointment

The following divisions and sections comprise the department controlled by the medical officer of health as principal officer of the medical services of the city and port of Bristol :—Epidemiology ; maternity and child welfare ; tuberculosis ; venereal disease ; school medical service ; preventive medicine, including pathological and bacteriological laboratories and the chemical laboratory ; port health service ; municipal hospital service including Southmead general hospital, Ham Green isolation hospital and sanatorium, Frenchay Park sanatorium and orthopaedic hospital, Babies home, Downend ; mental deficiency ; vaccination ; district medical officers ; sanitation and housing inspection ; food inspection ; Shops Acts administration ; ambulance and disinfection service ; air raid precautions casualty services.



# CONTENTS.

---

	PAGE
REPORT OF THE MEDICAL OFFICER OF HEALTH ... ..	6-139
Natural and social conditions ... ..	6
Vital statistics ... ..	10
General provision of health services ... ..	19
Maternity and child welfare ... ..	39
Sanitary circumstances and housing ... ..	61
Inspection and supervision of food ... ..	79
Prevalence of and control over infectious and other diseases...	94
Statistics ... ..	131
Medical literature ... ..	139
SECTIONAL REPORTS	
Ham Green Hospital and Sanatorium ... ..	141
Frenchay Park Sanatorium and Orthopaedic Hospital ... ..	149
Southmead Hospital ... ..	153
Babies' Home and Residential Nursery ... ..	163
Stapleton Institution and Eastville Institution ... ..	166
Dental work ... ..	171
Meteorology ... ..	174
REPORT OF THE DEPARTMENT OF PREVENTIVE MEDICINE ... ..	180-190
Bacteriology ... ..	183
Clinical Pathology ... ..	187
REPORT OF THE PUBLIC ANALYST ... ..	191-238
Food and Drugs Act ... ..	193
Port samples ... ..	212
Fertilisers and Feeding Stuffs Act ... ..	217
Water for chemical analysis ... ..	221
Sewage, river and subsoil samples ... ..	224
Miscellaneous analyses ... ..	228
Gas Regulation Act ... ..	232
Atmospheric pollution ... ..	234
REPORT OF THE PORT MEDICAL OFFICER ... ..	239-258
Amount of shipping entering the Port ... ..	242
Character and trade of Port ... ..	242
Water supply ... ..	244
Port Sanitary Regulations, 1933 ... ..	244
Measures against rodents ... ..	248
Hygiene of crews' spaces ... ..	251
Food inspection ... ..	251
Miscellany ... ..	257

## CONTENTS

*(continued).*

	PAGE
REPORT OF THE SCHOOL MEDICAL OFFICER ... ..	259-326
Staff ... ..	265
Co-ordination of health services ... ..	265
Hygiene of school premises ... ..	266
Medical inspection ... ..	266
Findings of medical inspection ... ..	267
Following up—school nurses ... ..	269
Treatment ... ..	271
Infectious disease ... ..	291
Open-air education ... ..	292
Physical instruction ... ..	293
Provision of meals ... ..	296
Co-operation of parents ... ..	298
Blind, deaf, defective and epileptic children ... ..	300
Full time courses of higher education for blind, deaf, defective and epileptic students ... ..	305
Nursery schools and classes ... ..	306
Secondary schools ... ..	311
Parents' payments ... ..	312
Health education ... ..	312
Miscellaneous ... ..	313
Statistical tables ... ..	317
REPORT OF MENTAL DEFICIENCY ACTS COMMITTEE ... ..	327-344
Hortham Colony—Medical Superintendent's Report ... ..	330
Mental Deficiency—Medical Officer of Health's Report ... ..	338

# CITY AND COUNTY OF BRISTOL.

---

## ANNUAL REPORT, 1938.

---

*My Lord Mayor, Ladies and Gentlemen,*

I have the honour to submit my report on the state of the public health and sanitary circumstances of the city (with Sectional reports) for the year 1938, the fifty-third of the series of annual reports, prepared in accordance with the statutory obligation in article 17 (5) of the Sanitary Officers (Outside London) Regulations 1935, on the general lines suggested by the Ministry of Health.

For convenience, all reports relating to the public health services in Bristol are published in this volume, including the general report referred to above and reports from the department of preventive medicine and the public analyst, reports to the port health authority and on the school medical service to the education authority, and the report of the Mental Deficiency Acts Committee.

This introduction is intended to serve as a general commentary on the main features of the year 1938 and to draw attention to problems and difficulties which still await solution. In the body of the report the various health services are dealt with in more detail in their appropriate sections.

### HEALTH OF THE CITY.

#### **Statistics** (p. 10).

The *birth rate* has risen again to 14·58 per 1,000 and is 0·12 per 1,000 higher than in 1937. This figure is the highest since 1932.

On the other hand, the *infant mortality rate* has fallen further to a new low record of 41·6 per 1,000 births. This fact means that 123 fewer babies died in Bristol last year than would have been the case had the rate of ten years ago obtained.

The *death rate* was slightly higher (0·2) at 11·64 per 1,000 population.

The *maternal mortality rate* (3·65) is slightly lower (0·2) than was the case the previous year, the deaths from puerperal sepsis being considerably lower. The rate in Bristol however, is still much higher than the national figure (2·97).

The *stillbirth rate* is also far too high in Bristol (37·5 per 1,000 total births).

The reorganisations and improvements which have been and are being carried out in our city commencing with the state midwifery scheme, the reorganisation of the ante-natal clinics in co-operation with the voluntary hospitals and the extension of the maternity hospital accommodation which it is hoped will be opened during 1939, should increase considerably the safety of Bristol mothers during confinement.

#### **Ambulance services** (p. 22).

I am far from being satisfied with the organisation of the ambulance services in the city. The number of ambulances is

adequate but their reorganisation should be considered carefully by the interested parties at an early date.

### *Knowle West Casualty Station.*

Following a deputation to the City Council from the Knowle West area, an experiment was carried out by providing in this district a casualty station. This consists of two council houses, one furnished as residential quarters and the other as a "surgery" for two trained nurses. It may be stated that this has been a remarkable success. A more detailed account of the work is given on page 22.

### **Hospital development (p. 24).**

One hundred maternity beds with accommodation for 90 nursing staff are under construction at Southmead Hospital and it is hoped that they will be opened during the summer of 1939.

### **Specialist services (p. 27).**

I desire to draw special attention to the description of the arrangements made with the specialists of Bristol. The scheme has worked excellently and has resulted in good feeling between the voluntary and municipal services, and considerable enthusiasm for the better organisation of all medical services in the city.

### **Nursing services (p. 29).**

These were the subject of a review by the various committees and by the City Council during the year. Mention may be made here of two particular matters :—

- (a) a scheme was instituted by the Health and Education Committees for employing girls for the period between their leaving school and entering hospital as probationer nurses.
- (b) the salaries of the nursing staff in the various categories were adjusted at a cost of approximately £10,000 a year.

### **Air raid precautions (p. 34).**

An attempt has been made to meet the enormous amount of additional responsibility cast upon the department, without unduly disturbing the general work of the public health service. On the whole this attempt has been successful—at least the clinic services have not been interfered with. It has only been possible to carry out this additional work by obtaining an adequate staff and by the invaluable assistance given by the Women's Voluntary Services under the direction of Mrs. Herbert Thomas. The British Red Cross Society, with the enthusiastic support of Miss Hall-Houghton, Assistant County Director, and the St. John Ambulance Brigade, whose County Officer, Mr. G. J. Creech, is a full-time member of the Council staff, have also been of great help to us.

### **Health centres (p. 40).**

No new health centres were erected during 1938 but schemes are being prepared for further additions in the early future. Additional facilities are demanded by expansion of the city into the surrounding country. A considerable number of additional sessions resulted in the employment of more health visitors and doctors during the year. Total attendances at the health centres during 1938 increased by approximately 30 per cent. over the figure for 1937 and the number is increasing steadily. The magnitude of the work carried on in



these health centres and the appreciation of the value of the service given to the people of Bristol is shown by the fact that at the present rate more than half a million will attend at the clinics in twelve months.

By far the best form of advertisement is an efficient service in properly equipped modern buildings. That has been the policy of our City Council.

#### *Standardisation of records.*

It is becoming more and more evident that there is need for standardising the records of patients as affected by the various health services—health visiting, infant welfare, school medical, chest clinic, etc. There is a continual interchange of records between local authorities of patients moving from one area to another, and from our experience in Bristol the manner in which the records are kept varies considerably. For instance, in the tuberculosis service, one authority (such as Bristol) collates all information on foolscap sheets, another authority uses cards. The same applies to other services. This seems to suggest that consideration might be given to devising for local authorities a standard form of patients' records.

#### **Infant welfare.**

A very interesting survey of the infant welfare work in Bristol for 1928-1938 is given by Dr. Hughes, chief assistant for maternity and child welfare. In this report it is pointed out that whereas ten years ago the new cases per cent. of the births were only 7·3, in 1938 the number had increased to 67·6.

#### **Sanitary services** (p. 62).

The work carried out by this department is frequently forgotten in the glamour of new developments that have taken place during the last few years. In 1938 nearly 57,000 visits were paid by the sanitary staff for all purposes to safeguard the health and hygiene of the city. In this way many nuisances which would have been a danger to the health of the public have been prevented or improved and pressure has been brought to bear on many persons to play the game as good neighbours.

#### *Overcrowding* (p. 75).

In spite of the fact that the Housing Act has not been interpreted in its widest sense in our city, at the end of 1938 we were aware of 829 families involving 6,045 persons who were living under overcrowded conditions. There is still a great scarcity of houses.

#### **Infectious Diseases.**

##### *Diphtheria* (p. 97).

It is regretted that greater advantage is not taken of the free immunisation scheme against diphtheria that has been operating in Bristol for the last ten years. Less than 4,000 children were treated during the year. The disease itself was more prevalent than was the case the previous year. It is impossible from the "common-sense" standpoint to appreciate the point of view of those who are antagonistic to this simple form of treatment. We have proved conclusively, and there are hundreds of parents in our city who are perfectly satisfied from personal experience, that this

simple form of treatment *does* protect children to a very considerable extent. If it were not so it would be sheer waste of money and, personally, were it ineffective, I would strenuously advocate dropping it for it involves the department in a considerable amount of work.

The question has been raised as to whether or not children, after the course of injections is completed, should be tested, in view of the fact that experience has shown that more than 90 per cent. are found to have been rendered negative to the test by the course. Whatever may be said from the aspect of mass immunisation, from the point of view of the private practitioner, testing after completion of the course is still strongly to be recommended, because it gives satisfaction to both parent and doctor to know that the child is not one of the small number who may not have responded.

*Scarlet fever* (p. 99).

Scarlet fever is no longer a "killing" disease. Out of 1,000 cases in the city one died last year. On the other hand the importance of not ignoring the possible complications and sequelae of the disease must be realised and we have no intention in this department of relaxing our vigilance in regard to it.

*Measles* (p. 101).

The same remarks may be made with reference to measles, of which we had 4,000 cases last year with 25 deaths.

*Tuberculosis* (p. 104).

There are 3,644 cases on our register and during 1938, 666 new cases were notified. This figure is slightly lower than for the previous year and the death rate has also fallen. We are far from satisfied with the results of our endeavour to wipe out this disease. During the last year under review, we intensified our campaign in various directions. The new scheme whereby free x-ray examination of the chest is made available to all practitioners was used freely and appreciated by the doctors in the city. All concerned are satisfied that as a result several cases were discovered which might have been missed altogether or only found out when the disease had progressed much farther. So that we may hope in this way not only to discover cases which might be missed but also to get better results from treatment of these early cases.

**City hospitals, sanatoria and institutions.** (p. 141).

As in previous years, reports are included by the superintendents of the various institutions belonging to the City Council.

**Preventive medicine department** (p. 180).

Considerably more work has been carried out in the preventive medicine department during the year. Improved methods of diagnosis of diphtheria and syphilis have been introduced resulting in greater efficiency and control of cases before and following treatment.

*Food and drugs* (p. 80).

The consumption of milk has increased considerably and it is a pleasure to note that approximately two-thirds of the milk supplied in Bristol is now pasteurised. Yet a large amount of raw milk



is still being consumed. In the report are included full details of milk examinations carried out. Out of 1,014 samples taken, 64 were found to contain live tubercle germs and they involved 32 producers. This bulk sampling is the best way we have at the moment of controlling the milk supply but it will be noticed from these reports that it has taken from five to nine months to clear most of these farms, and in many the infected milk was being consumed all this while.

#### *Water supply.*

A full report of the results of examination of the water supply is given on page 184.

### REPORT OF THE PUBLIC ANALYST.

The public analyst, in his report, draws attention to the considerable increase in the work carried out by his department during last year, which it has only been possible to carry out because of the close co-operation of other branches of the public health department.

It is disconcerting to find that in spite of additional samples taken under the Food & Drugs Act, the adulteration rate was higher during 1938 than it had been for several years. This makes one wonder what sort of food and milk one would be consuming in Bristol, were it not for the control exercised over the materials supplied.

Mr. Needs states that "altogether more than 4,000 examinations were made, and these did not lack in variety. Four complete years having elapsed since the Corporation and the University evolved the scheme whereby the chemical, bacteriological and pathological services should be merged, it can be stated without any hesitation that the co-operation between the two bodies has worked extremely well.

The number of samples submitted under the Food and Drugs Act per 1,000 of population was increased to 5, which is a figure much greater than that for the whole of England and Wales. Despite this large increase in the number of samples, the adulteration rate was higher than that for each of the previous three years, accounted for chiefly by milk samples.

Many interesting investigations were made during the year under review, and the examination of the morning and evening milk of an individual cow for many consecutive days with special reference to the freezing point during the second lactation was continued.

The examination of foodstuffs for metallic contamination, especially copper in tomatoes, together with the large increase in the number of samples of water, and the care of three official recording calorimeters under the Gas Regulation Act, entailed a considerable amount of work, and helped to make the year a very busy one."

### HEALTH OF THE PORT.

During the year under review the port remained free of dangerous infectious disease. No case of such disease was found on any vessel entering the Port of Bristol.

All vessels from foreign ports and particularly from "infected" ports, were visited and investigated on arrival regarding their state of health. In addition they were kept under observation during their stay in port.

All foreign going vessels were examined respecting their sanitary condition and special attention was paid throughout the year to the question of hygiene of crews' quarters.

There has been a steady volume of work in connection with imported food. This is skilled work needing judgment and care.

During the year 1,166 ships arrived at Bristol ports from "foreign" and 7,404 from coastwise, making a total from "foreign" and coastwise of 8,570. Of these ships, 42 were from ports known to have been infected by plague. Your medical officers visited 221 ships altogether and in nearly all these examined the crews. The port sanitary inspectors boarded 2,372 ships.

The number of cases of sickness landed or requiring medical attention at the port was 59 (57 in respect of "foreign" vessels and two from "coastwise" ships), in addition 37 cases of infectious and other sickness were reported to have occurred on vessels during the voyage, but had been disposed of prior to arrival.

There was no case or suspected case of yellow fever, smallpox or typhus on board these vessels. Eleven persons were removed from ships to the isolation hospital for observation or treatment, and three to Southmead Hospital for treatment of other than infectious diseases.

The medical inspectors of aliens inspected 124 aliens and subjected fifteen of these to detailed examination. No certificates of physical incapacitation were issued during the year.

The detection of rodent plague is one of the most important duties of the port health authority. All ships from infected or suspicious ports were examined thoroughly for rat indications and wherever possible samples of rats were obtained for pathological examination for plague. In all 263 rats from ships were examined during the year. For the purpose of sampling the rat population in the vicinity of the quays, 708 rats were examined pathologically giving a total of 971 examined during the year.

During the year additional duties were placed upon the port health authority by the Public Health (Aircraft) Regulations which came into force on 1st July, 1938. For the purpose of these regulations the airport is included in the arrangements already made for the sea ports in so far as they are applicable to aircraft.

The efficient carrying out of the work of the port needs close co-operation between medical officers, food inspectors, hospitals and laboratories. This is achieved by the close coordination of the port health department, Ham Green and Southmead hospitals, the school medical service and the preventive medicine laboratories of the University of Bristol. For the purposes of the port health authorities these departments work as one organisation.

In addition the port health department is closely linked with H.M. Customs and Immigration officers, the officers of the Port of Bristol Authority, the haven master and pilot and the surveyors' department of the Board of Trade.

## SCHOOL MEDICAL SERVICE.

**Health Centres** (page 264).

During 1938 four Health Centres built and equipped during the previous year, were in operation.

These new and well-equipped clinics contributed very largely to the increased demand for the medical services of the Education Committee. Compared with the previous year, there was an increase of more than 56,000 in the number of attendances at the various clinics (25 per cent.).

**Findings of medical inspection** (page 267).

It will be noted in the report that fewer defects were discovered by the medical officers during their routine inspection of school children. This applied to nearly all types of defects and clearly denotes the better state of health of our school population even than in the previous year. For example, the number of children slightly subnormal in nutrition or in a bad state of mal-nutrition discovered was less.

	1937.	1938.
slightly sub-normal in nutrition	... 12·2 per cent.	9·7 per cent.
bad mal-nutrition	... 4 per cent.	16 per cent.

The number of children found by the doctor to be requiring urgent dental treatment was less by 200 than in the previous year. Further examples are the fall in the defects of the eye, ear, nose and throat and heart disease and rheumatism.

**Nurses' Survey** (page 269).

The fall in the number of defects discovered by doctors as stated above, is in no small measure due to the work of the nurses' survey which is now taking place in three areas of the city and which will be extended to the whole city when a sufficient number of staff is available. During the year, 24,476 children were surveyed, and the nurses had cause to refer 2,367 of these children for full medical examination. Of the number of children examined by the doctors, 1,100 were discovered to be requiring some form of medical treatment or to be kept under supervision. In order of frequency the following defects were discovered by the nurses during their survey :—

1. Defective vision.
2. Mal-nutrition.
3. Defects of the ear, nose and throat.
4. Diseases of the skin.
5. Diseases of the eye.



It is presumed that as these cases had not been reported or had not come to the notice of the school medical service previously, they would not have been discovered until the children were subjected to routine medical inspection, had they not been specially inspected by the nurses.

A certain number of children suffering from deformity, rheumatism, defective speech and diseases of the chest were also discovered as the result of medical examination following their reference to the clinic by the nurses after survey in the school.

#### **Eye Clinics** (page 274).

Mr. Garden, the Ophthalmic Surgeon, submits a full report upon the work of this department as well as upon the work of the Orthoptic Clinic at the Bristol Eye Hospital. It is noted that 14 cases were discharged as cured by this form of treatment during the year.

#### **Aural Clinics** (p. 276).

Mr. Scarff, the Aural Surgeon, draws attention to the diminishing number of chronic cases of ear discharge; the number fell still further (by 11) in 1938.

#### **Child Guidance Clinic** (page 277).

Dr. Barbour, the Medical Director, submits a full and interesting report upon the work of this department during 1938. No one who reads the report can doubt the importance of this work and the part that it contributes to improving the health and progress of a large number of school children in Bristol.

#### **Dental Clinics** (page 281).

A full report upon the work of the dental service is submitted by Mr. Stride, the Supervisory Dental Surgeon. For most of the year, ten full-time dentists were employed to examine and treat the teeth of expectant and nursing mothers, infants and school children in the city. The time devoted to the school children amounted to approximately that of 8·8 full-time dentists—this is not sufficient to keep a complete supervision over all our school children and the responsible committees have the matter in mind when further health centres are erected.

During 1938, over 9,000 more school children (including Nursery Schools) were inspected by dentists and 1,233 more dental sessions were spent in their treatment. Nearly 8,000 more permanent teeth were filled during the year than was the case in 1937—a fact which indicates that the need for conservative treatment of the teeth of our school children was great and is being met to a greater extent than ever.

That the parents are appreciating the excellent dental service given at our health centres is shown by the fact that the “ consent

rate " rose last year to 68 per cent. compared with 61 per cent. the previous year. This occurred in spite of the fact that no pressure whatsoever was brought to bear upon any parent to have the children's teeth treated.

Orthodontic treatment has not yet been undertaken by the Education Committee.

#### **Orthopaedic and Postural Defects** (page 283).

Mr. Chitty, the Orthopaedic Surgeon, reports upon the work of this section. The number of cases referred to this clinic has tended to rise in recent years. Without doubt this is due to better diagnosis, particularly of smaller deformities, amongst the pre-school children. Mr. Chitty draws attention to the fact that there are " fewer deformities of sufficient severity to require operative treatment than was the case some years back."

#### **Heart Disease and Rheumatism** (page 285).

Professor Bruce Perry, the Cardiac Specialist, submits a report upon the work of the Cardiac Clinic. His remarks are encouraging. He draws attention to the fall in the number of new cases compared with the previous year and in commenting upon rheumatic heart disease states :—In 1931, 72 cases were considered unfit for school, quite apart from those recommended for institutional treatment, whereas in 1938, the corresponding figure was 9.

#### **Speech Clinic** (page 288).

An interesting report upon the work of this clinic is submitted by Dr. Bunting and Miss Wilson. They draw attention to the need of extending the work of this clinic to supply a much greater demand than it is able to meet at the present time.

#### **Physical Instruction** (page 293).

Mr. Milne, chief organiser of Physical Training, contributes an interesting report upon the work of his department.

#### **Provision of Meals** (page 296).

The number of free dinners provided during the year was more than doubled and the amount of free milk supplied was greater by 50 per cent. than in 1937. The children who received free dinners and milk were kept under close supervision by the School Medical service and the beneficial effect of this upon their health was noted by the staff concerned.

It is very gratifying to note that 3,250 more children are partaking of the facilities offered for obtaining milk in schools, either free or on payment—this brings the number of those availing themselves of free milk to more than 68 per cent. of the number on the books in the elementary schools.

**Co-operation of Parents** (page 298).

As has already been stated with regard to the work of the health centres, so with regard to routine medical inspection in schools, parents are appreciating the service more than they have ever done before. Parents were present at 79 per cent. of occasions when an examination was made and at 91 per cent. of the occasions when examinations of "entrants" were made.

**Defective Children** (page 300).

Miss Dunsdon, the Psychologist, contributes a report upon the children at Redcross Street Special School, and Mr. Chitty a report upon the physically defective children here.

**Nursery Schools and Classes** (page 306).

Accommodation is provided for 588 children in Nursery Schools as compared with 219 in 1937. Additional accommodation for 384 children in Nursery Classes was provided during the year, bringing the total up to 809. Including partially provided Nursery Classes, the total accommodation in Bristol has now been brought up to 1,627 which is a very satisfactory improvement.

**Employment of Children** (page 313).

A report is included by Mr. Tavener, the Inspector, upon this branch of the work.

**Medical literature.**

Contributions to medical and allied literature concerning clinical and other material obtained while in the Corporation service, made by members of the staff since my last report was published, will be found in the appendix.

---

Finally, I wish to express my indebtedness for the courtesy at all times extended to me by the chairmen and members of the various Committees, and particularly to the chairman of the Health Committee and the chief officers of the Corporation, which has greatly facilitated the work of the department throughout the year.

I am, my Lord Mayor, Ladies and Gentlemen,

Your obedient servant,

R. H. PARRY

*Medical Officer of Health.*

PUBLIC HEALTH DEPARTMENT,  
BRISTOL,

*August, 1939.*



1938

**REPORT**  
**OF THE**  
**MEDICAL OFFICER OF HEALTH**

R. H. Parry, M.D., B.S., M.R.C.P. (Lond.), D.P.H.

---

Public Health Committee

# **1.—NATURAL AND SOCIAL CONDITIONS AND VITAL STATISTICS.**

## **A.—Natural and social conditions.**

Industries and employment — population — marriages — housing—rates levied—expenditure on public health.

## **B.—Vital statistics.**

Live births—stillbirths—deaths—accidents—comparative statistics—mortality tables.

Note (1). Unless otherwise stated, all figures relating to vital statistics in this report are compiled from local returns.

(2). The vital statistics furnished by the Registrar General for Bristol for 1938, together with annual summaries since 1934 and quinquennial figures from 1881/1885 to 1931/1935 are printed in the appendix, together with comparative rates for England and Wales for births, deaths, infant mortality and maternal mortality.

## A.—NATURAL AND SOCIAL CONDITIONS.

1937	Extracts for the Year.	1938
24,381	Land acreage ... ..	24,381
1,528	Tidal water acreage ...	1,528
415,100	Population — mid-year estimate ... ..	415,500
102,853	Inhabited houses ... ..	106,116
2,190	Void houses ... ..	2,020
£3,331,637	Rateable value inclusive of Government property	£3,404,460
£23,687	Penny rate yield (approx.) ...	£23,964
£13,350		£13,500
£143,054	Outdoor relief ... ..	£145,164
3,605	Cases relieved week ended 25th June	4,135
4,005	" " 31st Dec.	4,518
6,318	Persons relieved week ended 25th June	7,145
7,290	" " 31st Dec.	7,970
10,404	Highest recorded no. of wholly unemployed men...	9,696
1,325	" " women	1,352
686	" " boys	650
713	" " girls...	657
1,205	Parks and open spaces (acres)	1,543
14	Public baths and washhouses	14
172	Public conveniences ...	184
70	Public bowling greens-rinks	60
43	Public tennis courts ...	43
6	Public putting greens ...	6
55	Public drinking fountains ...	54

*Natural conditions.*

Bristol is situated partly in Gloucestershire and partly in Somerset, the river Avon which flows through it being the dividing line. Its linear dimensions are approximately 10 miles by  $7\frac{1}{2}$  miles.

The city is built on a number of eminences ranging from 200 to 300 feet above ordnance datum, its highest elevation being on the eastern boundary (370 feet); lowest, the old city which lies at the confluence of the rivers Avon and Frome (30 feet above ordnance datum).

*Industries and employment.*

Bristol is the principal industrial centre for south and south-west England with a large municipal dock undertaking as one of its most important enterprises. It has its own dormitory districts as well as a residential suburb—Clifton—which is regarded as an inland watering place. Its chief industries are tobacco, cocoa and chocolate, leather and boots, chemicals, clothing, soap, earthenware, galvanized iron, spelter, paper bags, aeroplanes, cycles, engines, paints, oils and ropes; over 300 distinct industries are established. Occupation statistics derived from the 1931 census were published in detail in 1934.

The manager of the employment exchange, in kindly furnishing the peak statistics for 1938 (see above) for the city area which includes a portion of the Kingswood Exchange, states that—

“ During 1938 the employment position in Bristol as compared with 1937 has shewn a little improvement. The number of insured persons employed locally has increased, while the numbers registered as unemployed at the local employment exchanges shew very little change from last year. The increase in the numbers of persons in employment is largely due to the expansion of the aircraft industry in the area, and it is probable that the further expansion which is anticipated during the coming months will result in the absorption of quite a large number of those who are at present registered as unemployed.”

### *Population.*

The population of the city, as estimated by the Registrar-General at mid-1938 is 415,500, an increase of 400 on the figure supplied for mid-1937.

### *Marriages.*

*Rate per 1,000 population.*

	Bristol.	England and Wales.
1938	18·9	17·5
1937	18·2	17·4
1936	18·4	17·3

During the year, 3,917 marriages took place within the city and county of Bristol, compared with 3,781 in 1937. This number gives a marriage rate of 18·9 per 1,000 population, an increase of 0·7 on 1937.

The superintendent registrar states that these marriages were solemnized as follows :—

Church of England	...	...	...	2,314
By authorised persons	...	...	...	212
Before registrars	...	...	...	1,385
Quakers	...	...	...	3
Jews	...	...	...	3

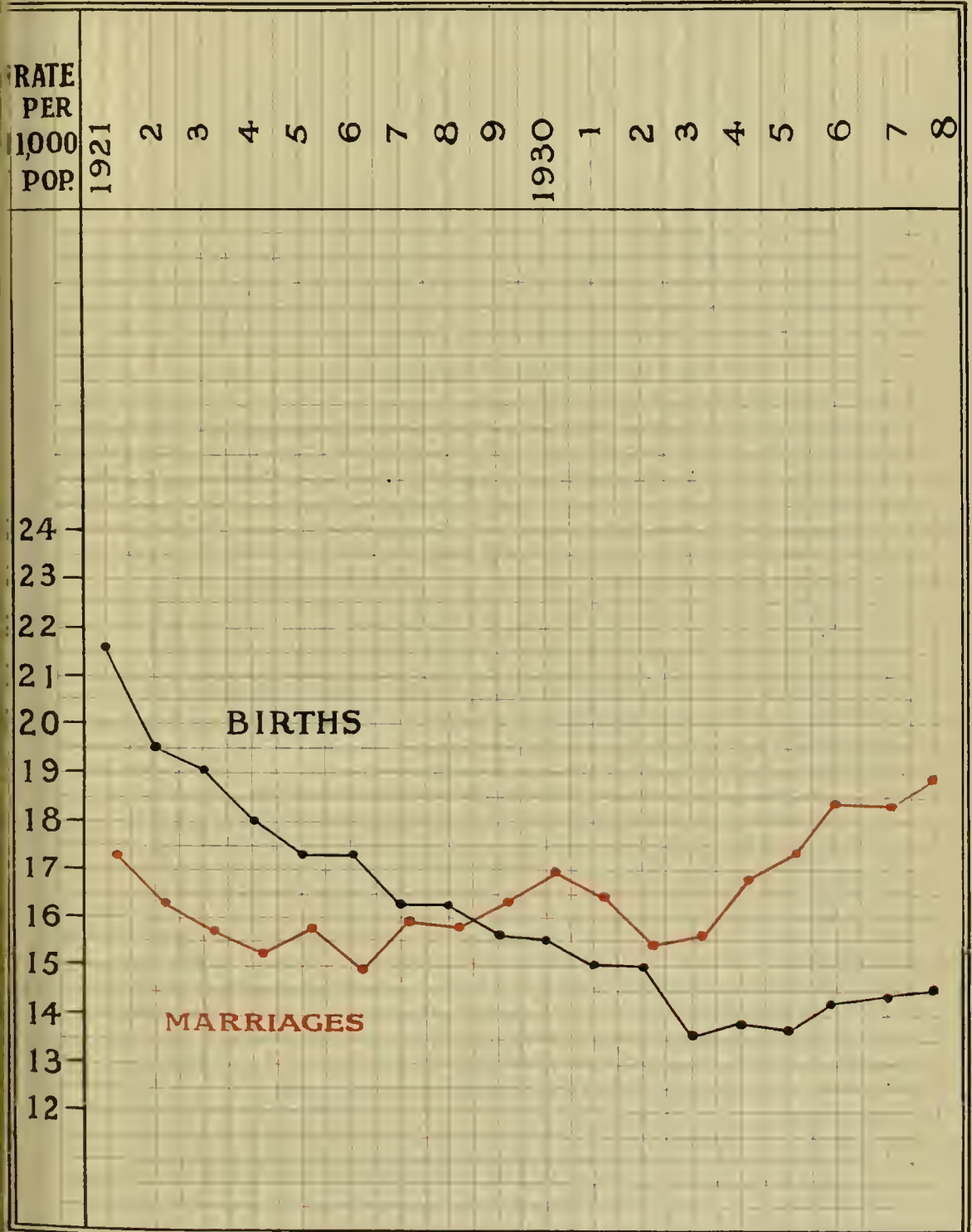
The provisional marriage rate for England and Wales (17·5) was 0·1 above that for 1937, and with the exception of the high rates recorded in 1915, 1919 and 1920, which were the direct result of war conditions, was the highest rate since 1873.

### *Housing.*

Since 1919, 35,886 houses have been erected in the city—21,531 by private enterprise and 14,355 by the Corporation. The provision of houses by the Corporation has been mainly confined to the suburbs, where to the end of 1938 2,310 acres of land had been acquired, and 14,017 houses had been provided. In the centre of the city 266 flats have been erected in three or four storey buildings and 72 houses have also been built. The erection of the houses and flats has enabled the City Council to clear 258 slum areas, to reduce overcrowding and to make a substantial contribution towards overtaking the shortage of houses in the city.

# MARRIAGE AND BIRTH RATES

## 1921-1938







*Rates levied.*

The rate levied for the year ended 31st March, 1938 was 11/6 in the £ except in districts affected by the Somerset Review Order 1933 where there is a differential rating of 7½d. in the £, and in districts affected by the Gloucester Review Order 1935 where there is a differential rating of 10d. in the £. Of this sum expenditure on public health services (1/9·2d.) was made up as follows :—

Hospitals, sanatoria, etc. :			
tuberculosis	...	...	4·1d.
venereal disease	...	...	0·4d.
infectious disease	...	...	2·0d.
general	...	...	2·0d.
Maternity and child welfare	...	...	3·2d.
Port health	...	...	0·1d.
Welfare of the blind	...	...	1·0d.
School medical service including pro-			
vision of meals	...	...	1·7d.
Care of mental defectives	...	...	3·3d.
Other health services	...	...	3·4d.

Bristol is amongst the lowest rated of all the ports and industrial centres of the United Kingdom.

**B.—VITAL STATISTICS.**

1937	Extracts for the Year.				1938
<b>14·46</b>	BIRTH RATE per 1,000 population	...	...	...	<b>14·58</b>
14·00	do. legitimate	...	...	...	14·07
0·46	do. illegitimate	...	...	...	0·51
<b>11·44</b>	DEATH RATE (Crude)	...	...	...	<b>11·64</b>
11·21	do. (Adjusted)	...	...	...	11·4
3·02	Natural increase	...	...	...	2·94
<b>45·83</b>	†INFANT MORTALITY per 1,000 livebirths—				<b>41·59</b>
45·61	Legitimate	...	...	...	40·03
52·36	Illegitimate	...	...	...	84·51
29·11	†NEO-NATAL MORTALITY per 1,000 livebirths	...	...	...	24·93
<b>38·15</b>	STILLBIRTH RATE per 1,000 TOTAL births	...	...	...	<b>37·49</b>
0·57	STILLBIRTH RATE per 1,000 population	...	...	...	0·57
<b>3·85</b>	†MATERNAL MORTALITY per 1,000 TOTAL births	...	...	...	<b>3·65</b>
1·28	Puerperal sepsis	...	...	...	0·47
2·57	Other puerperal causes	...	...	...	3·18
0·09	ZYMOTIC DEATH RATE per 1,000 population	...	...	...	0·15
18·2	MARRIAGE RATE per 1,000 population	...	...	...	18·9
<b>6,001</b>	*LIVEBIRTHS :				<b>6,058</b>
2,982	Legitimate males	...	...	...	3,057
2,828	„ females	...	...	...	2,788
108	Illegitimate males	...	...	...	100
83	„ females	...	...	...	113
<b>238</b>	*STILLBIRTHS—				<b>236</b>
116	Legitimate males	...	...	...	119
108	„ females	...	...	...	112
6	Illegitimate males	...	...	...	3
8	„ females	...	...	...	2
<b>4,751</b>	DEATHS—				<b>4,836</b>
41·7	Percentage occurring in public institutions	...	...	...	41·8
8	Maternal deaths from sepsis	...	...	...	3
16	„ „ other causes	...	...	...	20
2	Deaths from measles (all ages)	...	...	...	25
15	„ „ whooping cough (all ages)	...	...	...	2
11	„ „ diarrhoea (under 2 years of age)	...	...	...	12

\* Figures supplied by Registrar General.

† See p. 41.

**Live births.\****Rate per 1,000 population.*

	Bristol	England and Wales	Combined County Boroughs
1938	14·58	15·1	15·0
1937	14·46	14·9	14·9
1936	14·24	14·8	14·9

The live births of children of residents of Bristol in 1938 (whether born inside or outside the city) numbered 6,058 compared with 6,001 in 1937, and comprised 3,157 males and 2,901 females, of whom 100 males and 113 females were illegitimate. This number gives a *live birth rate* of 14·58 per 1,000 population, which shows an increase for the third year in succession and is 0·92 above the low record of 1933 (13·66).

The rate exceeds the mean birth rate for 1931/1935—14·3—but is still much below the mean for 1926/1930—16·3.

The *natural increase* of population (i.e., 1,222 more births than deaths) is 2·94 per 1,000, compared with 3·02 in 1937.

Illegitimate live births (213) were 22 more than last year and represent 3·5 per cent. of the total. The *illegitimate birth rate* was 0·51 per 1,000 population compared with 0·46 last year.

**Stillbirths.\****Rate per 1,000 population.*

	Bristol	England and Wales	Combined County Boroughs
1938	0·57	0·60	0·65
1937	0·57	0·60	0·67
1936	0·55	0·61	0·67

The stillbirths to Bristol residents in 1938 (whether born inside or outside the city) numbered 236 and consisted of 122 males and 114 females, of whom three males and two females were illegitimate. This figure gives a stillbirth rate of 0·57 per 1,000 population, the same rate as for 1937.

Illegitimate stillbirths (5) represent 2·1 per cent. of the total. The illegitimate stillbirth rate was 0·012 per 1,000 population compared with 0·03 last year.

The wastage of possible life is more accurately shown by calculating the stillbirth rate per 1,000 total births. In Bristol this was 37·5 compared with a national rate of 38. Last year the corresponding figures were 38·2 and 39.

\* *Births notified.* (see page 43).

**Deaths.***Rate per 1,000 population.*

	Bristol	England and Wales.	Combined County Boroughs
1938	11·64	11·6	11·7
1937	11·44	12·4	12·5
1936	12·27	12·1	12·3

The total deaths registered in the city during the year numbered 5,253. Of these deaths 511 were those of non-residents. On the other hand, there were 94 deaths of Bristol residents which occurred in other districts. The net number of deaths of domiciled Bristol residents during the year was thus 4,836, an increase of 85 on the number recorded in 1937. These deaths which comprised 2,384 males and 2,452 females, have been classified throughout this section under the principal causes according to the manual of the international list of causes of death.

The *crude death rate* was 11·64 per 1,000 population, an increase of 0·2 on 1937.

To make local death rates comparable with the death rate of the country as a whole or with the mortality of any other local area, they must be modified with a comparability factor. The corrected death rates for Bristol since 1931 are :—

Year	Bristol C.B.		Combined county boroughs	England and Wales
	Crude death rate	Adjusted death rate		
1938	11·64	11·4	11·7	11·6
1937	11·44	11·2	12·5	12·4
1936	12·27	12·02	12·3	12·1
1935	10·79	10·57	11·8	11·7
1934	10·9	10·7	11·8	11·8
1933	12·0	11·8	12·2	12·3
1932	11·6	11·4	11·8	12·0
1931	11·8	11·6	12·3	12·3

Bristol's adjusted death rate is 0·2 per 1,000 below the national rate and 0·3 lower than the rate for the combined county boroughs.

*Causes of mortality.*

Heart disease again heads the list in order of numerical importance as the principal cause of mortality (29·43 per cent. of the total deaths) followed by cancer (15·08 per cent.) and respiratory diseases excluding pulmonary tuberculosis (9·42 per cent.) More than half the total deaths registered were due to these three causes and they are in the same order of precedence as last year.

Causes of death which show marked decreases in the death rate compared with the previous year are whooping cough, influenza, diarrhoea and pulmonary tuberculosis. The most notable increases are provided by measles, diphtheria and heart disease.

### *Death rate in quarters.*

The death rate for the first quarter of the year was 13·12 per 1,000 ; for the second, 11·72 ; for the third, 9·96, and for the fourth, 11·72. These rates show a normal seasonal variation.

### *Causes of death by ages.*

An examination of this age group table discloses that for certain causes the majority of deaths occurred in certain age groups, for instance :—

Measles	...	...	88%	under	5 years.
Diphtheria	...	...	68%	between	5 and 15 years.
Pulmonary tuberculosis	...	...	65%	between	25 and 55 years.
Influenza	...	...	70%	over	55 years.
Cancer	...	...	58%	between	55 and 75 years.
do.	...	...	81%	over	55 years.
Diabetes	...	...	67%	between	55 and 75 years.
Heart disease	...	...	90%	over	55 years.
Nephritis	...	...	75%	"	55 years.
Bronchitis	...	...	73%	"	65 years.

The percentages of total deaths in different age groups are as follows : decreases have occurred in all the younger groups, the corresponding increase being shown entirely in the group aged 65 and over.

Age group		Percentage of total				
		1934	1935	1936	1937	1938
0—1	Infants .. ..	5·9	5·6	5·7	5·8	5·2
0—5	Pre-school children	8·1	7·8	8·1	7·5	7·3
5—15	School age ..	2·3	1·5	2·1	1·5	1·5
15—25	Young people ..	3·3	3·1	3·1	3·2	2·9
25—45	Adults, group i	10·3	10·4	9·2	9·0	8·9
45—65	" " ii ..	28·0	25·8	26·5	26·3	24·7
65+	" " iii ..	48·0	51·4	51·0	52·5	54·7

### *Accidents as a cause of mortality.*

1937	ACCIDENTS	Mechanically propelled vehicles.						Pedal cycles	Totals, 1938	
		Omni-buses and motor coaches	Tramcars and trackless trolley vehicles	Motor cycles	Private and other cars	Other vehicles	Horse drawn vehicles and horses		Persons involved	Accidents
38	Fatal ..	1	—	4	13	12	—	6	36	36
1,257	Non-fatal	45	13	198	400	150	10	423	1,402	1,239

In 1938, the deaths from causes due to violence other than suicide, gave a death rate of ·40 per thousand, ·04 more than last year. This rate includes a number of deaths directly due to street accidents in which vehicular traffic and cycles were concerned. The chief constable informs me that 36 fatalities occurred during the year from street accidents, so that 0·9 per 1,000 of the violence death rate may be directly attributed to this cause. Altogether, 1,275 traffic accidents were reported (102 more than in 1937) involving 1,438 persons in death or injury, and the fatal accidents represented 2·8 per cent. of the total.



*Miscellaneous.*

The number of inquests (505) and deaths certified by the coroner without an inquest (57) was 562 or 11·6 per cent. of the deaths registered.

Deaths in public institutions in Bristol, excluding deaths in nursing homes, totalled 2,022 or 41·8 per cent. of the total, compared with 41·7 per cent. last year and 40·5 per cent. in 1936.

Comparative Statistics  1938	Population	Rate per 1,000 population.		Rate per 1,000 live births	Rate per 1,000 total births		
		Live Births	Deaths (ad- justed)	Deaths under one year	Maternal deaths		Still- births
					All causes	Puerperal sepsis	
England & Wales	—	15·1	11·6	53	2·97	0·86	—
County Boroughs	—	15·0	11·7	57	not	available	—
Birmingham ...	1,041,000	16·6	11·99	61	2·71	0·61	35
Liverpool ...	827,400	18·7	14·1	73	1·96	0·65	38
Manchester ...	747,318	14·75	14·08	69	4·25	1·39	43·96
Sheffield ...	520,000	15·66	12·84	50	2·85	1·54	33
Leeds ...	494,000	15·4	13·5	64	1·78	0·25	41·4
<b>Bristol ...</b>	<b>415,500</b>	<b>14·58</b>	<b>11·4</b>	<b>42</b>	<b>3·18</b>	<b>0·64</b>	<b>37·5</b>
Hull ...	318,700	18·1	13·4	69	2·67	0·33	34·7
Newcastle ...	291,300	16·1	14·0	66	3·30	1·03	34·3
Bradford ...	288,700	13·51	13·78	58	4·15	0·49	47·9
Nottingham ...	278,300	15·57	13·10	71	1·77	0·44	42·43
Stoke ...	272,000	16·3	14·2	52	5·19	1·81	48·0

This table is compiled from the annual summary tables published by the registrar general and from statistics kindly furnished by the medical officers of health of the towns quoted.

The features of note in regard to the vital statistics for Bristol for 1938 compared with ten other large towns, the county boroughs, and with England and Wales are as follows :—

- (1) The birth rate in Bristol was, with the exception of Bradford, the lowest ; and it was lower than the rates for the country and the county boroughs ;
- (2) Bristol, as last year, had the lowest death rate, which was also lower than the national rate ;
- (3) The infant mortality rate for Bristol was much lower than that of any other of the towns quoted and much below the national rate ;
- (4) Compared with the rate for the whole country, the maternal mortality rate remained high.

Thus, during 1938, Bristol maintained generally favourable health statistics, except as regards the maternal mortality rate already mentioned.

## 1938.

*Causes of Death. Percentage to total and death rates.*

1937	Principal causes of death.				Net deaths in 1938	% to total deaths.	Death rate per 1,000
1	1	Typhoid and paratyphoid fevers ...			—	—	—
2	2	Measles ... ..			25	0·51	·06
4	3	Scarlet fever... ..			1	0·02	·002
15	4	Whooping cough ... ..			2	0·04	·004
8	5	Diphtheria ... ..			22	0·45	·05
104	6	Influenza ... ..			37	0·77	·09
5	7	Encephalitis lethargica ... ..			2	0·04	·004
7	8	Cerebro spinal fever ... ..			4	0·08	·009
279	9	Tuberculosis of respiratory system			230	4·76	·55
53	10	Other tuberculous diseases ...			40	0·83	·096
16	11	Syphilis ... ..			11	0·23	·03
16	12	General paralysis insane, tabes dorsalis			11	0·23	·03
645	13	Cancer, malignant disease ... ..			729	15·08	1·75
81	14	Diabetes ... ..			66	1·36	·16
271	15	Cerebral haemorrhage, etc. ...			281	5·81	·68
1,238	16	Heart disease ... ..			1,423	29·43	3·424
21	17	Aneurysm ... ..			20	0·41	·05
223	18	Other circulatory diseases ... ..			253	5·23	·61
146	19	Bronchitis ... ..			146	3·02	·35
217	20	Pneumonia (all forms) ... ..			229	4·74	·55
88	21	Other respiratory diseases ... ..			43	0·89	·10
49	22	Peptic ulcer ... ..			51	1·06	·12
26	23	Diarrhoea, etc. ... ..			14	0·29	·034
24	24	Appendicitis ... ..			30	0·62	·07
10	25	Cirrhosis of liver ... ..			16	0·33	·04
20	26	Other diseases of liver, etc. ...			14	0·29	·034
88	27	Other digestive diseases ... ..			91	1·88	·22
141	28	Acute and chronic nephritis ...			151	3·12	·36
8	29	Puerperal sepsis ... ..			3	0·06	·007
16	30	Other puerperal causes ... ..			20	0·41	·05
187	31	Congenital debility, premature birth, malformations, etc. ... ..			172	3·56	·414
167	32	Senility ... ..			110	2·28	·27
45	33	Suicide ... ..			49	1·01	·12
149	34	Other violence ... ..			167	3·45	·40
381	35	Other defined causes ... ..			371	7·67	·89
—	36	Causes ill-defined or unknown ...			2	0·04	·004
4,751					4,836	100·00	11·64
Sub-entries included in above figures :							
189	18	Arterio-sclerosis ... ..			205	4·24	·49
42	35	Rheumatism ... ..			50	1·03	·12



1938.

*Causes of death in quarters.*

Total 1937	Disease.	Quarters.				Total 1938
		1st	2nd	3rd	4th	
1	1 Typhoid and paratyphoid fevers	—	—	—	—	—
2	2 Measles ... ..	22	3	—	—	25
4	3 Scarlet fever ... ..	1	—	—	—	1
15	4 Whooping cough ... ..	—	2	—	—	2
8	5 Diphtheria ... ..	6	10	3	3	22
104	6 Influenza ... ..	18	10	2	7	37
5	7 Encephalitis lethargica ... ..	—	—	—	2	2
7	8 Cerebro spinal fever ... ..	2	—	1	1	4
279	9 Tuberculosis of respiratory system	68	60	61	41	230
53	10 Other tuberculous diseases ...	12	7	12	9	40
16	11 Syphilis ... ..	—	5	2	4	11
16	12 General paralysis insane, tabes dorsalis ... ..	3	3	2	3	11
645	13 Cancer, malignant disease ...	169	194	190	176	729
81	14 Diabetes ... ..	24	13	4	25	66
271	15 Cerebral haemorrhage, etc. ...	80	78	64	59	281
1,238	16 Heart disease ... ..	405	338	312	368	1,423
21	17 Aneurysm ... ..	5	2	8	5	20
223	18 Other circulatory diseases ...	58	54	61	80	253
146	19 Bronchitis ... ..	63	33	9	41	146
217	20 Pneumonia (all forms) ...	82	67	24	56	229
88	21 Other respiratory diseases ...	13	11	7	12	43
49	22 Peptic ulcer ... ..	25	6	10	10	51
26	23 Diarrhoea, etc. ... ..	5	3	5	1	14
24	24 Appendicitis ... ..	8	10	6	6	30
10	25 Cirrhosis of liver ... ..	3	5	4	4	16
20	26 Other diseases of liver, etc. ...	4	4	2	4	14
88	27 Other digestive diseases ...	22	20	19	30	91
141	28 Acute and chronic nephritis ...	47	39	31	34	151
8	29 Puerperal sepsis ... ..	—	1	1	1	3
16	30 Other puerperal causes... ..	6	1	5	8	20
187	31 Congenital debility, premature birth, malformations, etc. ...	50	40	43	39	172
167	32 Senility ... ..	30	29	21	30	110
45	33 Suicide ... ..	9	18	11	11	49
149	34 Other violence ... ..	32	44	43	48	167
381	35 Other defined causes ... ..	92	107	73	99	371
—	36 Causes ill-defined or unknown	—	1	1	—	2
4,751	TOTAL ...	1,364	1,218	1,037	1,217	4,836
11·44	Death rate per 1,000	13·12	11·72	9·96	11·72	11·64
Sub entries included in above figures :—						
189	18 Arterio-sclerosis ... ..	52	45	52	56	205
42	35 Rheumatism ... ..	9	21	4	16	50

1938.

*Causes of death at ages and by sex.*

CAUSE OF DEATH		All ages			Under 1	1—	2—	5—	15—	25—	35—	45—	55—	65—	75—	80+
		Male	Female	Total												
Uncertified .. ..		1	2	3	..	..	..	..	..	..	..	1	..	1	..	1
1 Typhoid and paratyphoid fevers .. ..		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
2 Measles .. ..		13	12	25	5	9	8	1	..	..	2	..	..	..	..	..
3 Scarlet fever .. ..		..	1	1	..	..	1	..	..	..	..	..	..	..	..	..
4 Whooping cough .. ..		1	1	2	1	1	..	..	..	..	..	..	..	..	..	..
5 Diphtheria .. ..		8	14	22	2	..	4	15	1	..	..	..	..	..	..	..
6 Influenza .. ..		15	22	37	1	..	2	..	1	..	4	3	6	8	4	8
7 Encephalitis lethargica ..		1	1	2	..	..	..	..	1	1	..	..	..	..	..	..
8 Cerebro spinal fever ..		2	2	4	2	..	..	..	1	..	1	..	..	..	..	..
9 Tuberculosis of respiratory system .. ..		132	93	230	..	..	..	2	47	59	45	46	20	9	2	..
10 Other tuberculous diseases		17	23	40	1	3	4	4	12	6	5	3	2	..	..	..
11 Syphilis .. ..		9	2	11	1	..	..	..	..	..	3	2	2	1	..	..
12 General paralysis insane, tabes dorsalis .. ..		9	2	11	..	..	..	..	..	..	1	4	3	5	..	..
13 Cancer, malignant disease		324	405	729	..	..	..	2	1	8	40	88	198	226	97	69
14 Diabetes .. ..		25	41	66	..	..	..	1	1	..	2	3	17	27	7	8
15 Cerebral haemorrhage, etc.		118	163	281	..	..	..	..	..	..	5	20	56	93	58	49
16 Heart disease .. ..		676	747	1423	..	1	..	1	11	16	40	74	214	450	245	371
17 Aneurysm .. ..		12	8	20	..	..	..	..	2	..	1	5	8	1	2	1
18 Other circulatory diseases		122	131	253	..	..	1	..	..	1	5	15	50	79	48	54
19 Bronchitis .. ..		76	70	146	3	..	..	..	..	..	3	15	18	32	23	47
20 Pneumonia (all forms) ..		121	108	229	38	10	13	5	8	7	13	25	24	39	20	27
21 Other respiratory diseases		17	26	43	2	2	..	..	..	3	3	8	11	8	1	5
22 Peptic ulcer .. ..		41	10	51	..	..	..	..	1	2	7	8	11	14	5	3
23 Diarrhoea, etc. .. ..		10	4	14	10	2	..	..	..	..	1	..	..	1	..	..
24 Appendicitis .. ..		18	12	30	..	..	1	5	4	6	1	2	1	6	4	..
25 Cirrhosis of liver .. ..		10	6	16	..	..	..	..	..	..	3	2	7	4	..	..
26 Other diseases of liver, etc.		5	9	14	..	..	..	..	..	..	..	2	4	5	2	1
27 Other digestive diseases ..		50	41	91	6	1	4	3	2	4	6	7	17	19	10	12
28 Acute and chronic nephritis		82	69	151	..	..	..	6	2	5	8	17	28	44	21	20
29 Puerperal sepsis .. ..		..	3	3	..	..	..	..	1	..	2	..	..	..	..	..
30 Other puerperal causes ..		..	20	20	..	..	..	..	3	9	8	..	..	..	..	..
31 Congenital debility, premature birth, malformations etc. .. ..		95	77	172	166	1	3	1	1	..	..	..	..	..	..	..
32 Senility .. ..		41	69	110	..	..	..	..	..	..	..	..	..	10	16	84
33 Suicide .. ..		34	15	49	..	..	..	..	..	7	5	13	16	6	2	..
34 Other violence .. ..		104	63	167	3	4	13	8	14	18	8	13	20	27	14	25
35 Other defined causes ..		196	175	371	11	4	7	16	30	21	38	36	50	88	38	32
36 Causes ill-defined or unknown		..	2	2	..	..	..	..	..	..	..	..	..	1	..	1
All Causes .. ..		2384	2452	4836	252	38	61	70	144	173	260	411	783	1203	624	817
Sub-entries included in above figures.	18 Arterio-sclerosis ..	99	106	205	..	..	..	..	..	..	3	10	38	65	42	47
	35 Poliomyelitis ..	1	1	2	..	1	..	..	1	..	..	..	..	..	..	..
	Erysipelas ..	2	2	4	1	..	..	..	..	..	..	1	..	1	..	1
	Poli-encephalitis ..	1	1	2	..	..	1	..	1	..	..	..	..	..	..	..
	Venereal disease (other than syphilis) ..	..	1	1	1	..	..	..	..	..	..	..	..	1	..	..
	Dysentery ..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..
	Rheumatism ..	17	33	50	..	..	1	6	10	6	9	2	2	3	7	4

1938.

*Causes of death in registration sub-districts.*

CAUSE OF DEATH		DEATHS IN DISTRICTS AT ALL AGES.									DEATHS IN PUBLIC INSTITUTIONS	
		All districts	Ashley	Bristol South	Bristol Central	Clifton	St. George	Stapleton	Westbury-on-Trym	Home address unknown		Port Cases
Uncertified .. ..		3	2	..	..	..	..	..	1	..	..	..
1 Typhoid and paratyphoid fevers ..		..	..	..	..	5	6	3	3	..	..	..
2 Measles .. .. .		25	1	6	1	..	1	..	3	..	..	20
3 Scarlet fever .. .. .		1	..	..	..	..	1	..	..	..	..	1
4 Whooping cough .. .. .		2	..	..	..	1	..	..	..	..	..	2
5 Diphtheria .. .. .		22	1	7	..	2	8	2	2	..	..	22
6 Influenza .. .. .		37	4	10	..	4	11	7	1	..	..	8
7 Encephalitis lethargica .. .. .		2	..	..	..	..	2	..	..	..	..	1
8 Cerebro spinal fever .. .. .		4	..	..	1	1	..	1	1	..	..	4
9 Tuberculosis of respiratory system ..		230	28	71	21	23	39	26	17	5	..	127
10 Other tuberculous diseases .. ..		40	6	13	5	3	5	7	1	..	..	33
11 Syphilis .. .. .		11	1	3	2	1	1	2	1	..	..	7
12 General paralysis insane, tabes dorsalis .. .. .		11	2	3	4	..	1	1	..	..	..	8
13 Cancer, malignant disease .. ..		729	125	176	58	91	139	88	49	3	..	299
14 Diabetes .. .. .		66	14	15	3	8	17	8	1	..	..	28
15 Cerebral haemorrhage, etc. .. ..		281	40	76	28	33	54	31	17	2	..	131
16 Heart disease .. .. .		1,423	223	351	123	173	258	206	79	9	1	381
17 Aneurysm .. .. .		20	3	8	2	1	1	3	1	1	..	10
18 Other circulatory diseases .. ..		253	56	43	20	28	59	29	17	1	..	61
19 Bronchitis .. .. .		146	22	36	15	12	38	14	9	..	..	44
20 Pneumonia (all forms) .. .. .		229	31	65	24	17	38	36	16	1	1	111
21 Other respiratory diseases .. ..		43	7	8	7	4	13	3	1	..	..	24
22 Peptic ulcer .. .. .		51	7	15	4	3	11	8	3	..	..	36
23 Diarrhoea, etc. .. .. .		14	2	4	2	..	3	..	3	..	..	12
24 Appendicitis .. .. .		30	5	6	1	1	5	4	8	..	..	23
25 Cirrhosis of liver .. .. .		16	1	5	..	4	2	1	3	..	..	6
26 Other diseases of liver, etc. .. ..		14	6	1	..	3	2	1	1	..	..	5
27 Other digestive diseases .. .. .		91	11	23	8	9	16	15	7	2	..	61
28 Acute and chronic nephritis .. ..		151	29	39	12	6	38	17	10	..	..	60
29 Puerperal sepsis .. .. .		3	..	1	..	..	1	..	1	..	..	2
30 Other puerperal causes .. .. .		20	4	4	1	1	4	4	2	..	..	15
31 Congenital debility, premature birth, malformations, etc. .. ..		172	17	60	12	13	33	17	20	..	..	120
32 Senility .. .. .		110	21	19	8	25	9	20	8	..	..	41
33 Suicide .. .. .		49	8	13	2	6	10	3	6	1	..	6
34 Other violence .. .. .		167	31	40	14	15	29	13	23	2	..	102
35 Other defined causes .. .. .		371	62	105	19	46	64	39	34	2	..	211
36 Causes ill-defined or unknown .. ..		2	2	..	..	..	..	..	..	..	..	..
All causes .. .. .		4,836	770	1,226	397	539	918	610	345	29	2	2022
Sub-entries included in above figures	18 Arterio-sclerosis .. .. .	205	46	35	16	23	51	21	13	..	..	35
	35 Poliomyelitis .. .. .	2	..	..	..	1	..	1	..	..	..	..
	Erysipelas .. .. .	4	..	3	..	1	..	..	..	..	..	3
	Polio-encephalitis .. .. .	2	..	..	..	1	..	..	1	..	..	1
	Venereal disease (other than syphilis) .. .. .	1	..	..	..	..	..	1	..	..	..	..
	Dysentery .. .. .	1	..	..	..	..	..	1	..	..	..	1
Rheumatism .. .. .		50	8	14	4	4	15	2	3	..	..	20
Deaths of infants under 1 .. .. .		252	24	87	18	18	45	31	29	..	..	177

## II.—GENERAL PROVISION OF HEALTH SERVICES.

Department of Public Health—Staff—Medical examinations—Laboratory facilities—Ambulance facilities—Casualty station—Nursing in the home—Hospitals and nursing homes—blood transfusion service—Bristol Hospitals Council—hospital administration—specialist services—hospital developments—hospital costings—dental services—training of nurses—nursery nurses' training scheme—Parliamentary powers—Nursing staff salaries—Ilminster Avenue Nursery Centre—Recovery of costs—Local Government Act, 1929—poor law medical out relief—National insurance medical service—Mental deficiency—Nutrition—Social survey—Health education—national health campaign—Municipal aerodrome—Air raid precautions.



## II.—GENERAL PROVISION OF HEALTH SERVICES.

### Department of Public Health.

The City Council have delegated to the Public Health Committee all their powers and duties which can be delegated to a committee in respect of all matters such as the following :—

Port health administration ; private drains, sanitary conveniences ; paving of yards and passages, filthy or verminous premises ; control over certain public sanitary conveniences ; nuisances and offensive trades ; water supplies ; public pumps or cisterns ; polluted wells and insanitary cisterns ; prevention notification and treatment of disease ; hospitals and nursing homes ; notification of births, maternity and child welfare, midwives and child life protection ; common lodging houses ; canal boats ; nuisances in connection with water courses ; ditches and ponds ; nuisances arising from tents, vans and sheds ; control of movable dwellings ; inspection and supervision of meat, milk and food ; factories, workshops, bake-houses and laundries ; slaughterhouses ; venereal diseases ; fertilisers and feeding stuffs ; shops hours and regulations ; pharmacy and poisons ; rag flock ; agricultural produce ; merchandise marks ; food and drugs adulteration ; preservatives in food ; artificial cream ; rats and mice destruction ; noise nuisances and steam whistles.

The Health Committee deals with all questions of policy and governs expenditure by acting as the accounts and contracts committee. In addition, the following sub-committees have been appointed :—

Public health institutions :	upkeep of buildings and plant, extensions, etc.
Maternity & child welfare :	maternity and child welfare scheme, municipal midwives, etc.
Assessment :	recovery of cost of services provided.
Farms and abattoir :	hospital produce, abattoir management and licensing.
Port health :	port sanitary and imported food regulations.
Staff ; Pathology.	

The Health Committee also appoints representatives on joint committees as follows :—

Co-ordination of medical services (with Education and Public Assistance Committees) ; Joint Committee of Health and Public Assistance Committees ; Joint Appointments (with Education Committee) ; Tuberculosis voluntary after-care ; Contracts ; Open spaces ; and Farms.

Certain other matters of public health have been delegated by the Council to the following committees as indicated :—

Air Raid Precautions Committee :	Casualty services scheme.
Baths Committee :	Provision and control of swimming baths and bathing places.
Blind Persons Act Committee :	Administration of Blind Persons Act, etc.
Education Committee :	School medical service.
Housing Committee :	Prevention and abatement of overcrowding, demolition and clearance orders, etc.
Mental Deficiency Acts Committee :	Care of the mentally defective.
Cemeteries Committee :	Provision and supervision of cemeteries, etc.
Public Assistance Committee :	District medical service, care of chronic sick, etc.



**Staff.**

All public health officers of the local authority hold the requisite certificates or qualifications required for their appointments.

The principal officers of the department are enumerated on page vi. As frequent changes occur during the course of the year the subordinate staffs are numerically indicated below, according to the nature of their appointments. This list includes the principal officers referred to above, but does not include institution domestics or workmen.

Medical Staff :				whole-time.	part-time.
Administrative ...	...	...	...	3	
Clinics ...	...	...	...	16	*
Hospitals ...	...	...	...	13	31
Laboratory ...	...	...	...	4	
District medical officers ...	...	...	...	...	10
Public vaccinators ...	...	...	...	...	8
M.D. certifying officers ...	...	...	...	...	10
Casualty services—A.R.P.	...	...	...	1 (temp.)	
Dental surgeons ...	...	...	...	10	
Veterinary surgeon ...	...	...	...	...	1
Analysts ...	...	...	...	4	
Nursing staff :					
Hospitals ...	...	...	...	311	
Health visitors and clinics ...	...	...	...	89	
Midwives ...	...	...	...	14	
Dispensers ...	...	...	...	4	
X-ray operators ...	...	...	...	2	
Inspectors :					
Housing and sanitation ...	...	...	...	29	
Food ...	...	...	...	7	
Shops Acts ...	...	...	...	4	
Port, including assistant officers ...	...	...	...	5	
Midwives and nursing homes ...	...	...	...	1	
M.D. supervising officer and trainers				12	
Laboratory staff ...	...	...	...	12	
Teaching staff ...	...	...	...	4	
Vaccination officers ...	...	...	...	2	
Women's welfare worker ...	...	...	...	1	
Almoner ...	...	...	...	1	
Psychologist ...	...	...	...	1	
Social worker ...	...	...	...	1	
Speech therapist ...	...	...	...	1	
Clerical staff ...	...	...	...	74	
„ „ school medical ...	...	...	...	15	

\* In addition to the whole-time staff, 16 sessions per week are held by part-time doctors.

### Medical examinations.

The work of the staff in connection with the medical examination of new employees and for other purposes during the year is detailed below :—

Examinations for superannuation	...	...	...	29
Examinations of new entrants	...	...	...	581
Examinations for workmen's compensation	...	...	...	2
Examinations of other employees	...	...	...	82
Examinations for air raid precautions	...	...	...	1,019
Total				1,713

### Laboratory facilities.

The revised scheme with the University for the provision of laboratory facilities remains as described last year.

Reports by Dr. K. E. Cooper, the senior bacteriologist, and Dr. Dorothy Woodman, the senior clinical pathologist, on the work of the preventive medicine laboratory for the city in 1938, and by Mr. F. E. Needs, F.I.C., public analyst, will be found appended to this report.

### Ambulance facilities.

Service by	Infectious cases.	Non-infectious cases
Health Committee ... ..	2,503	—
Public Assistance Committee ...	—	4,483
City and Marine Ambulance Corps	—	5,092
St. John's Ambulance Corps ...	—	9,633

In 1938 public ambulance services removed 21,711 cases. Day and night service is provided for all kinds of cases.

### Casualty station, Knowle West.

In May, 1938, a deputation from the Knowle West and Filwood Park estate drew the Council's attention to the number of accidents which occurred to children in that area and to the lack of medical services generally.

The medical officer of health, in a report to the Health Committee, stated that the ambulance services of the city were adequate in number, and that there was no justification for the establishment of further branch depots. On the other hand, there was complete lack of co-operation between the voluntary organisations and the matter should be remedied as soon as possible. Pending the erection of buildings to provide a casualty, continuation, maternity and child welfare and school medical clinic therefore, an arrangement was made whereby the Housing Committee placed at the disposal of the Health Committee two parlour-type houses on the estate to be used, one as a casualty station and one as residential quarters for two nurses. A twenty-four-hour service is available and the nurses will render first aid treatment to persons attending for the first time and treatment to cases referred by practitioners in the

area—dressings, etc. No domiciliary visits are undertaken by the staff but they are prepared to summon medical attention to persons requiring it or an ambulance in case of emergency.

The first aid station situated at Throgmorton Road, Knowle West, was opened on 2nd January, 1939. The following table gives a summary of the work carried out at the station during the first three months of the year.

CASES DEALT WITH TO 31ST MARCH, 1939.	
Minor ailments—school children .. .. .	1,199
Minor ailments—under 5 .. .. .	326
Minor ailments—adults .. .. .	108
Daily treatments from B.G.H. and Eye Dispensary ..	260
Cases treated first time .. .. .	545
Cases referred to see doctor at Filwood and Bedminster Health Centres .. .. .	106
New cases referred from Bedminster Health Centre ..	33
New cases referred from Filwood Clinic .. .. .	7
Enquiries (patient not brought to clinic) .. .. .	17
Enquiries for health services .. .. .	121
Cases referred to hospital .. .. .	52
Cases referred to private doctors .. .. .	36

### *St. John Ambulance Brigade.*

Reference was made last year to the formation of a division of the St. John Ambulance Brigade in the Public Health Department. A first aid class was formed in June 1938 and examined in December, and in January 1939 the chief commissioner approved the formation of a division, which then consisted of 20 members. The division meets weekly at the Central Health Clinic for further instruction and in addition the members are undertaking public duties to gain practical experience. Since its formation the membership has increased to 33.

### **Nursing in the home.**

The arrangement for nursing the sick in their homes is provided in Bristol solely by private societies and institutions as detailed in my report for 1930. Since August, 1931, the Health Committee has made annual grants of 25/- per case to the Bristol and Clifton District Nurses' Society for nursing approved cases of tuberculosis in their own homes. During the year the society undertook the nursing of 30 cases making a total of 247 cases nursed since the arrangement began.

The funds of this society and other district nursing associations, are subscribed to by the Public Assistance Committee, on behalf of the Corporation, in recognition of their valuable work to the community, which doubtless relieves considerably the pressure on the hospitals and sick institutions of the city.

### **Blood transfusion service.**

A voluntary service for supplying donors for blood transfusion has been organised by a voluntary committee. No fee is charged, but donations are accepted by the Society. I am indebted to the Secretary for the following information regarding transfusions in 1938 given by the 204 donors (160 male and 44 female) on the Bristol

panel. On the 1st January, 1939, the service changed to the international nomenclature for the blood groups and the percentages of these among the donors are :—

International Group AB (Moss Group 1)	...	...	1.45%
" " A ( " " 2)	...	...	48.50%
" " B ( " " 3)	...	...	6.00%
" " O ( " " 4)	...	...	44.05%

During the year 185 transfusions were given—an increase of 30 on 1937. The average cost per transfusion was  $1/7\frac{1}{2}$ , the lowest in the world. The classified results were “very good”—45%; “satisfactory”—26%; “temporary improvement only”—26%; and “unsuccessful”—3%.

In the autumn, owing to an acute shortage of group O donors, the Society were forced to appeal through the press for volunteers, and the appeal brought in 92 new donors, of whom 39 were ladies.

### Hospitals and Nursing Homes.

The total number of beds provided for the treatment of the sick is:

Type.	Municipal.	Voluntary.
Infectious disease ...	337	—
Tuberculosis ... ..	314	—
Maternity ... ..	44*	169
General ... ..	516	998

\* To be increased to 100 in 1939.

In addition there are 1,500 beds provided by the Public Assistance Committee for chronic sick and senile cases at their institutions (see page 167).

The Health Committee makes hospital provision as follows :—

Southmead Hospital : medical, surgical and maternity (560).

Ham Green Hospital : infectious disease (337) and tuberculosis (160).

Frenchay Park : orthopaedic and tubercular diseases in children (96).

and maintains 58 beds at Winsley Sanatorium for the treatment of pulmonary tuberculosis.

The Health Committee's hospitals provide the following services :

#### *Southmead General Hospital :—*

Almoner—ante-natal clinic and consultative ante-natal clinic—post natal clinic—dental department—dietician—ear, nose and throat department—electrical department—electro cardiograph unit—gynaecological unit—instruction in obstetrics to students—laboratory—laundry—massage department—maternity department (nursery for healthy infants attached)—midwives training school—female nurses training school—occupational therapy—orthopaedic surgical unit—



peptic ulcer unit—rheumatism unit— skin diseases treatment—tonsils and adenoids (school children) treatment—tuberculosis (non-pulmonary), men, women, children—urological diseases unit—x-ray, diagnostic.

*Ham Green Isolation Hospital and Sanatorium :—*

Dental department—research laboratory—laundry—female nurses training school—occupational therapy—tuberculosis (pulmonary and non-pulmonary), men, women—x-ray, diagnostic—three operating theatres.

*Frenchay Park Sanatorium.*

Dental department—electrical treatment—ultra violet light treatment—massage department—female nurses training school—tonsils and adenoids (school children) treatment—tuberculosis (pulmonary and non-pulmonary) children—x-ray, diagnostic.

There are six voluntary general hospitals for medical, surgical and gynaecological cases, maintained largely by public subscription. Some idea of the work performed by these voluntary hospitals is given below. The work of the municipal general and special hospitals, sanatoria and public assistance institutions will be found reported in the appendix.

VOLUNTARY HOSPITALS, 1938.	Total no. of beds.	Average no. occupied	No. of in- patients	No. of out- patients
Bristol Royal Infirmary ...	442	401·2	10,472	67,706
Bristol General Hospital ...	269	249·8	5,498	49,091
Bristol Royal Hospital for sick children and women ...	120*	86·6	2,233	5,685
Cossham Memorial Hospital	95	73·6	1,519	1,926
Bristol Homoeopathic Hospital	78	61·3	1,292	2,313
Bristol Eye Hospital ...	82	61·3	1,361	20,652
Bristol Maternity Hospital and Temporary Home ...	30**	—	799	—
Walker Dunbar Private Hospital for women and children	30	20	343	—

\* 108 in use; \*\* 38 since 1.7.38.

Convalescent hospital accommodation has been provided by voluntary effort at the Queen Victoria Convalescent Home, Durdham Down (81 beds) and at the Children's Convalescent Home (a branch of the Bristol Children's Hospital) at Weston-super-Mare (44 beds). There is a voluntary orthopaedic and heart hospital for children (110 beds) at Winford.

*Nursing homes.*

The number of registered homes in the area now totals 27. The homes are visited at regular intervals by the inspector of nursing homes. It has not been necessary to withdraw the registration of any home during the year. The co-operation of medical practitioners has been sought for the discovery of unregistered homes.

NURSING HOMES REGISTERED.	BEDS	
	Medical and Surgical	Maternity
St. Mary's Private Hospital ... ..	68	—
St. Brenda's Private Hospital ... ..	19	3
Pembroke Nursing Home ... ..	35	4
St. Andrew's Nursing Home ... ..	—	17
Chesterfield Nursing Home ... ..	33	10
Kingsway Nursing Home ... ..	12	—
Home for Invalids ... ..	15	—
West Mall Nursing Home ... ..	14	4
Cromwell Nursing Home ... ..	1	3
Oakland Nursing Home ... ..	—	6
Lonsdale House Nursing Home ... ..	14	—
Northumberland Nursing Home ... ..	9	—
Mrs. Butler's Nursing Home ... ..	4	—
Dorset House Nursing Home ... ..	59	—
Walker Dunbar Hospital ... ..	23	7
Ashley Grange Annexe Nursing Home ... ..	13	—
Eventide Nursing Home ... ..	23	—
Hillside Nursing Home ... ..	—	8
Hampstead Nursing Home ... ..	—	6
Nurse Webb's Nursing Home ... ..	—	2
Bristol Maternity Hospital ... ..	—	42
Grove House Home ... ..	—	12
Mount Hope Maternity Home ... ..	—	10
Drayton House Nursing Home ... ..	2	—
Sunnyside Nursing Home ... ..	7	—
Miss Tudball's Nursing Home ... ..	10	—
Mrs. Bale's Nursing Home ... ..	5	—
Total ... ..	374	126

Nursing Homes.	1936	1937	1938
Homes registered ... ..	1	1	2
Homes exempted from registration	8	8	8
Registrations refused or cancelled	3	3	1
Total on register ... ..	32	30	27
Visits by inspector ... ..	153	101	121

### *Bristol Hospitals Council.*

For the purpose of section 13 of the Local Government Act, 1929, the Bristol Hospitals Council, which was formed in 1929, has been recognised by the City Council, and this body is consulted on questions affecting hospital provision in Bristol. The Council includes the Lord Mayor, the Vice-Chancellor of the University (as chairman) and representatives of all voluntary hospitals as well as of the Health and Public Assistance Committees. The medical officer of health is also a member ex-officio. During 1938 the Hospitals Council had under consideration the midwifery services of the city and maternity accommodation.

### *Hospital administration.*

The administration of the Health Committee's institutions is centralised at the health department under the medical officer of

health. To deal with the various matters arising at the hospitals, the Health Committee have appointed sub-committees to deal with (1) questions affecting extensions, upkeep of buildings, plant, etc., (2) matters relating to staff and allied questions and (3) recovery of cost of maintenance of patients.

The admission of patients to any of the Committees' institutions is arranged through the medical officer of health, to whom application should be made, and a 24-hour service is given to the public.

*Specialist service for corporation hospitals.*

On the recommendation of the Health Committee the City Council in June 1938 approved of arrangements for the provision of the services of specialists in surgery and medicine for the hospitals under their control. After discussions with the professors of clinical medicine and surgery of the University of Bristol and with the Committees of the Bristol Royal Infirmary and the Bristol General Hospital a scheme was prepared under which the Corporation for a fixed payment per annum calls upon the services of teams of specialists in surgery and medicine, whose services will be available for all the institutions under the control of the Health Committee.

The scheme is based upon the fact that Southmead Hospital is now carrying out work of a standard equal to that of the voluntary hospitals and has been drawn up with a view to bringing up the specialist services to the standard which this requires.

The distribution of cases between the Bristol Royal Infirmary, the Bristol General Hospital and Southmead Hospital are governed by the following rules :—

1. No Bristol patient is to be kept waiting if a bed is available at any of the three institutions.
2. If a patient expresses a strong wish to enter any one particular institution this is to be taken into account.
3. No hard and fast rules are laid down with regard to cases admitted to the hospitals of the Corporation. In general acute cases and emergencies are admitted to the Bristol Royal Infirmary and the Bristol General Hospital and cases requiring more prolonged treatment go to Southmead from the first.

With regard to the specialist and medical services required these are provided as follows :—

The professor of surgery is responsible for the surgical services and the professor of clinical medicine for medical services. So far as surgical work is concerned there are four teams each consisting of two surgeons. The specialist medical services are provided by three visiting physicians or teams of physicians who will have entire charge of the medical cases. As the scheme is one involving an enlargement of the specialist services of the Corporation, it does not affect surgeons or physicians with existing contracts, with the exception of the general surgeon at Southmead and the consultant physician for heart cases at Southmead, who are both included in the teams of specialists. The remainder of the visiting surgeons and physicians at Southmead are carrying out work which is outside the scope of the present arrangements and they are therefore not affected.



The specialist staff meet regularly to discuss the progress of development of the Southmead Hospital, the medical superintendent convening and being present at these meetings. Any recommendations made at these meetings are forwarded by the medical superintendent to the medical officer of health for submission to the Health Committee. Nothing in the scheme interferes with the internal administration of any hospital of the Corporation which remains the responsibility of the medical superintendent.

The payments for these services have been provisionally agreed at £900 per annum for surgical services and £900 per annum for medical services, subject to review annually and it has been agreed that a surgeon or a team of surgeons and a physician or a team of physicians shall attend at Southmead each day and that each team shall attend at least twice a week. These payments include all medical and surgical specialist services which the Corporation may require with the exception of attendances in Court in connection with cases of workmen's compensation or other litigation.

The payment of these fees provides the Corporation with the specialist services which are necessary if Southmead is to be recognised as a hospital doing work of a standard equal to that of the voluntary hospitals.

After a short time has elapsed to gain experience of the scheme it will be necessary to appoint additional house physicians and house surgeons.

Details of the panels of specialists now available for consultation at the city hospitals will be found in the reports of the medical superintendents (see appendix).

### *Ham Green Hospital.*

The change-over of the electricity supply at Ham Green Hospital from direct to alternating current and the reconstruction and improvement of the heating system, referred to in the last report, were completed during the year, except for the rewiring of certain wards.

### *Southmead Hospital.*

(a) The erection of the buildings comprising part I of the Southmead Hospital development scheme (100 maternity beds and nurses home) proceeded satisfactorily during the year and it is anticipated will be completed by September, 1939.

(b) The preparation of part II of the scheme, referred to in detail in last year's report, is proceeding.

(c) It was reported to the Health Committee in July 1938 that there was a shortage of hospital beds in Bristol for the treatment of persons suffering from illness. The extensions being constructed at Southmead Hospital will release 64 beds for the treatment of these cases but as these buildings will not be completed until 1939 temporary measures were taken to provide beds during the winter of 1938-39. The Health Committee accordingly placed in order the temporary buildings at Southmead formerly used for mentally defective patients, to be utilised to accommodate 50 additional cases at a cost of £1,400 for the provision of bedsteads, mattresses, bedding, furniture and equipment.



*Hospital costings.*

1937/1938	Southmead Hospital	Ham Green		Frenchay Park Sanatorium
		Hospital	Sanatorium	
Net average cost per patient per week	£2 11 3·1	£4 8 6·6	£2 14 6·1	£2 13 3·9
No. of patient days	163,772	49,876	55,392	33,960
Average percentage of bed cases ...	86·5	67·7	72·4	50

*Dental services.*

The Corporation employs ten dentists of whom eight give whole-time service to the inspection and treatment of school children, while two joint dental surgeons provide the dental service for hospital patients and maternity and child welfare cases and give varying part-time duty in the school medical department. The report of the joint dental officers will be found in the appendix.

*Training of nurses.*

The arrangements for the training of nurses in the Health Committee's hospitals remain as described last year. Agreements are in operation between the Corporation and the authorities of Wiltshire, Exeter and Poole.

*Nursery nurses training scheme.*

This scheme remained in operation during 1938. At the end of the year there were 17 probationers undergoing training.

**Parliamentary powers** (see Annual Report 1937, p. 35).

The Bristol Corporation Act 1938 received the Royal Assent on 29th July, 1938 and the powers set out below were delegated by the Council to the Health Committee.

Section 64—Further powers relating to the inspection of meat;

Section 65—Power to deal with noise nuisances ;

And other incidental sections.

**Nursing staff.***Salaries.*

The City Council in July, 1938, approved revised salary scales recommended by the Education and Health Committees for health visitors, school nurses and hospital nursing staffs, and the appointment of fourteen additional health visitors, eight being for health services and six for school services, bringing the staff to a total of 64 health visitors and clinic nurses. The work of the health visitors has grown considerably in recent years. The staff is responsible for the supervision of nursery schools and classes (three schools and 17 classes—premises to accommodate eight additional classes in course of erection). Supervision of the provision of meals for mothers and infants is undertaken at four centres, mentally defective children are supervised and the recent extension of the city boundaries has also added to the work. As

regards the school medical service, the survey scheme which has been adopted in certain parts of the city provides for the examination of every child attending school and if a child is not progressing mentally or physically the case is referred for special examination by a doctor. It is desired to extend the survey scheme to the whole of the city. As a result of propaganda the ordinary work in connection with antenatal clinics and infant welfare centres has increased ; since 1931 provision has had to be made for 36 additional sessions weekly.

The Health Committee also reported on the problems relating to the recruitment of probationers and the retention of trained nursing staff in the various hospitals under their control. Various measures have been adopted to meet the situation, including the introduction of a scheme for the training of girls and filling the gap between the time girls leave school and the age at which they are eligible to start as probationer nurses, and by the appointment of male nurses and orderlies and female attendants to undertake certain duties formerly performed by nurses. The shortage of trained nursing staff is a national one and appears to be due mainly to generally unattractive rates of remuneration and the fact that girls are able to find better paid employment with shorter hours of work and the opportunity of living at home. It was agreed to revise the scales of salaries for hospital nursing staffs. The estimated maximum annual additional cost of the above proposals is £9,775.

#### *Training of pre-probationer nurses.*

Many girls would enter the nursing profession if there was some means of filling in the time which must elapse between their leaving school at the age of 14 to 16 and the age of 18 when they may enter the hospitals, and with this end in view the Health and Education Committees have put into operation various schemes for employing girls in clinics and nurseries. After further consideration of the problem in 1938, having regard to the extensions of the health services and the considerable increases in the attendances at the health centres, the Co-ordination of Medical Services Committee approved a joint scheme whereby these girls may work in day nurseries and nursery schools and classes in the city (52 posts as nursery helpers and ten posts as probationers) as well as assist in the health centres (22 posts as clinic assistants) and in the kitchens of the hospitals (eight posts as domestic science pupils). By this scheme the girls are kept occupied and supported until they are old enough to take up nursing. The complete arrangements for training and the necessary lectures, etc., are undertaken by the Education Department staff. Under the new General Nursing Council regulations, candidates for posts as probationer nurses must hold the school leaving certificate or equivalent, or must pass the new nurses' test examination. The ordinary elementary school girl is not able to pass this examination without training and the course arranged by the Education Committee for these girls includes educational as well as technical subjects.

#### **Ilminster Avenue Nursery Centre.**

The Council in November 1934 accepted a joint report from the Education and Health Committees recommending a nursery centre for children under five years of age upon the Ilminster Avenue

School site, such centre to form part of the authority's public health service and to be under the control and supervision of the Health Committee. This centre was opened in October 1936 at a cost of £5,284. The experiment was carefully watched with a view to developments upon similar lines in other parts of the city if it proved successful. In June, 1938, the Committees further reported that they had agreed that the nursery centre should be transferred from the Health Committee to the Education Committee and worked in future as a nursery school. It was considered that children between the ages of two and five could be best cared for by the Education Committee in nursery schools. The transfer was approved by the Board of Education and the Ministry of Health and the Council accordingly adopted the recommendations.

### **Recovery of cost of services.**

The assessment of ability to pay of patients applying to the Health Committee for assistance towards the cost of the following services is delegated to a special sub-committee which meets weekly for this purpose :—

- Cost of dentures for expectant and nursing mothers.
- Midwives fees.
- Medical aid at childbirth.
- Consultants fees.
- Orthopaedic appliances.
- Maintenance in hospitals and homes.

A report by the almoner of Southmead Municipal Hospital, giving details of her work during the year will be found on page 160.

In connection with the collection of amounts due from patients for services provided by the Health Committee, arrangements came into operation in August, 1938, whereby patients can pay the amounts due from them at any of the Health Committee's clinics and centres. People are encouraged in the case of midwives' fees and maternity beds at Southmead Hospital to pay in advance towards the cost, and for this purpose a special contribution card has been devised for use by patients when making payment by instalment. The scheme has met with much response, as it is convenient for people to make payment at different addresses in the city.

Agreements under section 16 of the Local Government Act 1929 have been entered into by the Health Committee with employees' medical funds committees of several large firms in the city and with the committee of the Bristol Medical Institutions Contributory Scheme.

### **Local Government Act, 1929.**

My report for 1930 detailed the services transferred under the provisions of the Local Government Act and delegated to the Health Committee under the administrative scheme approved by the Council. There have been no amendments of the scheme as approved by the Ministry of Health since those referred to in the report for 1934.



*Poor law medical out-relief.*

There has been no change in regard to the policy of medical out-relief, which is under the Public Assistance Committee, since its transfer to the Council. In 1935 the city was divided into twelve relief and medical districts with the medical staff under the general direction of the medical officer of health. Ten part-time medical officers are allocated to the twelve districts, the cases in districts 3, 6, 7 and 11 being dealt with by two officers. The "open choice" system has not been introduced in poor relief cases requiring medical treatment. Cases requiring hospital treatment are admitted to Southmead Hospital.

The work performed by the district medical officers during the year is summarised below :—

DISTRICT No. :—	1	2	3	4	5	6	7	8	9	10	11	12
1. Cases dealt with ..	1,268	1,332	739	1,324	1,770	3,781	1,990	1,664	1,072	1,301	1,438	2,787
2. Attendances at homes	646	1,775	392	664	753	1,021	472	753	2,249	995	821	961
3. Attendances at surgery	980	1,587	1,262	1,299	1,729	2,720	1,518	1,016	1,498	1,808	1,483	1,826
4. Bottles of medicine	1,734	3,130	342	2,038	2,168	3,216	1,806	478	1,292	1,189	883	4,052
5. Certificates given ..	154	203	191	268	321	353	198	1,025	54	46	257	264
6. Recommendations for extra nourishment	14	26	21	48	143	127	106	80	16	13	53	95
7. Dentures recommended	4	5	6	12	19	7	4	12	7	3	15	8
8. Surgical appliances recommended ..	10	6	3	16	8	4	4	2	6	6	4	6
9. Lunacy cases visited (not included in 5)	1	4	1	11	9	5	—	15	14	21	—	2
10. Cases referred to hospital ..	45	67	37	32	81	52	42	67	49	15	58	54
11. Patients in receipt of poor law relief	1,197	639	322	930	1,656	3,472	1,814	1,071	760	1,181	1,318	2,498

**National Insurance medical service.**

The clerk to the Bristol Insurance Committee informs me that the total number of insured persons in the city under the National Health Insurance Acts was 187,894 at the end of 1938, 45 per cent. of the population. This is an increase of 12,156 on the corresponding figure for 1937. The prescriptions dispensed during the year (786,822) and the scripts issued (577,434) also show increases. There are 185 practitioners on the medical list.

**Mental Deficiency Acts, 1913/38.**

Cases admitted to institutions during the year..	..	44
Placed under guardianship .. .. .	..	2
Licensed from institutions .. .. .	..	74
Placed under supervision .. .. .	..	59
Admitted to occupation centres .. .. .	..	32
Cases, under order, that have died .. .. .	..	8
Cases, not under order, that have died .. .. .	..	3
Situations found .. .. .	..	17
Total visits paid by officers .. .. .	..	3,353



There has been no change in the general administration of this service. At the end of the year the Council was responsible for 1,514 defectives who are dealt with as follows :—

Institutions	...	...	...	640
Under supervision	...	...	...	798
Under guardianship	...	...	...	73
Pending	...	...	...	3
				<hr/>
				1,514
				<hr/>

The Mental Deficiency Acts Committee submit a separate report on their work.

#### *Medical arrangements.*

In addition to assistant school medical officers, six medical practitioners are approved for the purpose of giving medical certificates under Section 5 of the Mental Deficiency Act, 1913.

Medical assistance for all mental defectives who are not resident in institutions has been made available at the various health clinics.

#### **Nutrition.**

In the maternity and child welfare section the usual series of lectures was given at infant welfare centres regarding the importance of adequate nutrition. The Bristol Gas Company and the Milk Publicity Council gave cooking demonstrations at a number of centres.

#### **Social survey.**

The project for a social survey of Bristol originated with the Colston Research Society and the survey was conducted by the University during 1937. The Health Committee made a grant of £125 towards the cost. The general aims of the survey were described as follows: 'The Bristol survey will not concentrate entirely upon the problems of defining a poverty line, and determining how large a fraction of the Bristol population have incomes below the standard defined, and what the causes of its poverty are. It will also have as a second point of concentration the operation of the social services. Every topic reviewed will be dealt with not only to discover the light it sheds upon the measurement of distress and its alleviation, but also from the point of view of the contribution the social services, public and voluntary, make towards the solution of the problems presented. Each service—relief, education, public health, etc.—will be reviewed in all its branches, not only, as has in the main been done in the past, in order to assess their importance from the poverty point of view, but also to provide a picture of the social services in operation.'

A preliminary report of this inquiry was published in 1938 under the title 'The Standard of Living in Bristol' and (to quote) 'it shows that on the whole the typical Bristol family is fortunately placed, and probably better off than the families of many other towns.'

A more comprehensive report is nearing completion.

## **Health education.**

The public health staff have continued to give health lectures and demonstrations on problems dealing with public health to social, religious and political organisations, and meetings were addressed in addition to the usual lectures at the mothers' schools, clinics, etc.

In every possible way due prominence was given to constructive health work and preventive measures necessary to combat disease in order to improve the general standard of health of the people. Eight advertising hoardings in different parts of the city have been used throughout the year for the purposes of health propaganda and sets of posters designed by the Central Council for Health Education have been published.

The Bristol branch of the Social Hygiene Council is actively engaged in this work, particularly in relation to social problems including venereal disease and the creation of general interest in biological subjects. The Health Committee makes a grant to the Social Hygiene Council of £139 of which two thirds is allocated to the local branch. In the annual report of the branch, it is stated that 71 lectures were given during the year and a considerable amount of free literature distributed. In addition parents' conferences have been arranged through the schools with the co-operation of the Education Committee and the head masters and head mistresses. Talks were given by medical speakers and suitable films were shown. The object of these conferences is to secure the co-operation of the parents in developing a closer association between home and school life.

## *National Health Campaign.*

The Health Campaign inaugurated by the Prime Minister in September, 1937, aroused widespread interest in the public health services provided by local authorities and voluntary organisations. The campaign extended from October, 1937 to March, 1938 and the measures taken locally were fully reported last year.

## **Bristol Municipal Aerodrome.**

The Public Health (Aircraft) Regulations came into force on 1st July, 1938. For the purpose of the regulations the airport is included in the arrangements already made for sea ports in so far as they are applicable to aircraft.

## **Air raid precautions—Bristol casualty services.**

### *Organisation.*

The Casualty Services organisation includes the following :—

1. A system of fixed first aid posts.
2. A system of mobile first aid posts, to be used in conjunction with emergency temporary dressing stations.
3. First aid parties located in depots throughout the city.
4. Ambulances, also located in depots throughout the city.
5. Cleansing stations.
6. Mortuaries.
7. Casualty hospitals.

The city is divided into six divisions—Central, Clifton, Shirehampton, Knowle, Bedminster and St. George. These are identical with the police divisions and all the arrangements of the casualty services are based upon these divisions.

### *Headquarters.*

Peace time headquarters of the casualty services: Health Office, 40 Prince Street. War time headquarters: Main Control Centre, Central Police Station.

### *Officers of the casualty services.*

Casualty Services Controller ...	Medical Officer of Health
Deputy Controller ... ..	Deputy Medical Officer of Health
First Aid Commandant ...	Dr. E. T. Glenny
Supplies Officer ... ..	Mr. C. C. Hancock
Ambulance Officer ... ..	Mr. C. W. Pitcher

The medical officer of health is also the local agent of the regional hospital officer for hospital services. The functions of the various branches of the casualty services are :—

#### 1. *Fixed first aid posts.*

These first aid posts are stationed at hospitals and health centres throughout the city and are intended to deal with walking wounded only. The posts will be staffed by doctors and nurses, augmented by volunteer nurses and will be prepared to deal with casualties immediately after an air raid. The posts will also deal with the subsequent treatment of walking wounded. They will, in effect, take on the function of an out-patient department of a hospital.

#### 2. *Mobile first aid posts.*

These mobile posts will consist of large vans containing all the complete surgical equipment for fitting up a dressing station in any building near the site of a raid. These mobile units will be accompanied by doctors, nurses and first aid workers and the function of the units are as follows :—

Immediately after a raid the mobile unit will be rushed to the spot and the nearest suitable building will be commandeered and transformed into an emergency temporary dressing station. Here, as far as possible, cases will be treated and classified; those requiring hospital treatment will be sent to hospital and those walking wounded requiring further treatment will be instructed to report at their nearest fixed post for subsequent treatment.

#### 3. *First aid parties.*

The first aid parties comprise the rank and file of the casualty services. They are all people trained in first aid and consist of units of five men, i.e., five men = one party. These parties will be stationed at depots throughout the city of which there are six, one in each division. At the same depot will be stationed the ambulances and the whole depot will be in charge of the depot officer. A complete unit consists of five men, two ambulances and two vans. There will be ten such units or parties at each depot throughout the whole 24 hours.

#### 4. *Ambulance services.*

The ambulance service consists of approximately 200 ambulances, staffed by volunteer drivers. Twenty ambulances will be stationed at each depot and in addition there will be vans for transporting less seriously wounded people—these will also be stationed at the depot. It should be noted that the ambulances and the first aid party will be located in the same depot.

#### 5. *Cleansing stations.*

Ten such cleansing stations have been allocated. These are at the public swimming baths. The regular staff will be supplemented by suitable volunteers and the necessary cleansing can be carried out there.

#### 6. *Mortuaries.*

A building has been selected in each division to act as a mortuary. Arrangements have been made with suitable staff to deal with this side of the work.

#### 7. *Casualty hospitals.*

The three main casualty hospitals are the Bristol Royal Infirmary, Bristol General Hospital and Southmead Hospital. In addition, Frenchay Hospital, which will be considerably enlarged and Winford Hospital, similarly enlarged, will be used as “base” hospitals. Cossham Hospital will be used chiefly for Gloucestershire cases.

The following is a detailed list of the general casualty services of the city, and a list of the services as grouped in the divisions (as at May, 1939—liable to revision) :—

##### *Casualty hospitals*

Southmead Hospital	Frenchay Park Sanatorium
Bristol Royal Infirmary	Cossham Hospital
Bristol General Hospital	Winford Hospital

##### *Fixed first aid posts.*

Portway Health Centre	Southmead Hospital
Speedwell Health Centre	Bristol Royal Infirmary
Central Health Clinic	Bristol General Hospital
Bedminster Health Centre	

##### *Mobile first aid posts.*

Southmead Hospital (2)	Central Health Clinic (2)
Bristol General Hospital	Speedwell Health Centre (2)
Portway Health Centre	Bedminster Health Centre (2)

##### *Cleansing stations.*

Shirehampton Baths	Knowle Baths
Jacob's Wells Baths	North Bristol Baths
Downs Dressing Pavilion	Broadweir Baths
Mayor's Paddock Baths	East Bristol Baths
South Bristol Baths	Barton Hill Baths

##### *Mortuaries.*

St. Agnes Church Hall	St. Aldhelm's Church Hall
St. Peter's Church Hall	St. Ambrose Church Hall
The Methodist Hall, Redcatch Road, Knowle	The Methodist Hall, Shirehampton



*Bedminster Division.*

Fixed First Aid Post	...	...	Bristol General Hospital
Mobile First Aid Post	...	...	Bristol General Hospital
First Aid Party and Ambulance Depot	...	...	St. Paul's Mission Hall, Dean Lane
Cleansing Station	...	...	South Bristol Baths
Mortuary	...	...	St. Aldhelm's Parish Hall

*Knowle Division.*

Fixed First Aid Post	...	...	Bedminster Health Centre, St. John's Lane
Mobile First Aid Post	...	...	Bedminster Health Centre, St. John's Lane
First Aid Party and Ambulance Depot	...	...	Hemplov House, Brislington
Cleansing Station	...	...	Jubilee Road Baths
Mortuary	...	...	Methodist Hall, Redcatch Road, Knowle

*Shirehampton Division.*

Fixed First Aid Post	...	...	Portway Health Centre
Mobile First Aid Post	...	...	Portway Health Centre
First Aid Party and Ambulance Depot	...	...	Penpole House, Shirehampton
Cleansing Station	...	...	Shirehampton Baths
Mortuary	...	...	Methodist Hall, Penpole Avenue, Shirehampton

*Central Division.*

Fixed First Aid Post	...	...	Bristol Royal Infirmary Central Health Clinic
Mobile First Aid Post	...	...	Central Health Clinic
First Aid Party and Ambulance Depot	...	...	Muller's Orphanage
Cleansing Station	...	...	North Bristol Baths Broadweir Baths
Mortuary	...	...	St. Agnes Church Hall

*Clifton Division.*

Fixed First Aid Post	...	...	Southmead Hospital
Mobile First Aid Post	...	...	Southmead Hospital
First Aid Party and Ambulance Depot	...	...	Grove Road, Redland
Cleansing Station	...	...	Jacob's Wells Baths Downs Dressing Pavilion
Mortuary	...	...	St. Peter's Church Hall

*St. George Division.*

Fixed First Aid Post	...	...	Speedwell Health Centre
Mobile First Aid Post	...	...	Speedwell Health Centre
First Aid Party and Ambulance Depot	...	...	Holms Hill Road, St. George
Cleansing Station	...	...	East Bristol Baths
Mortuary	...	...	St. Ambrose Church Hall

**Recruitment and training for casualty services.**

By a circular issued just before the September crisis (August 26th, 1938), the responsibility for the enrolment, instruction and training was officially transferred to the medical officer of health. Previously,

the work of preliminary training had been carried out with much enthusiasm by the British Red Cross Society and St. John Ambulance Association and Brigade. This work was continued with even greater enthusiasm in co-operation with these societies to whom appreciation and thanks are due.

By December 1938, the whole of the available trained personnel had been allocated to the 15 first aid stations approved at that time and team training had commenced which included visits to the model first aid station temporarily established at Cotham Secondary School. At the same time, in co-operation with the Women's Voluntary Services for National Defence (Section Leader, Mrs. V. Thomas) the work of the recruitment of ambulance drivers and car owners for evacuation purposes was proceeded with and by the end of the year 250 had been registered for that purpose. The efforts of Mrs. Thomas and her staff in this direction were of tremendous value and assistance and greatly appreciated.

The following figures indicate the work of enrolment and training which was accomplished by the end of the year :—

Trained in anti-gas and first aid	...	736
Trained in anti-gas	... ..	1,756
In training	... ..	1,248
		<hr/>
		3,740
		<hr/>

By the end of the year, 37 classes had been organised including a number which were run in connection with the Education Committee's Evening Institutes with the object of accelerating training by utilising facilities which were already available at the time of the transfer of the responsibility to the medical officer of health.

#### *Effect of National Service Scheme.*

The introduction of the National Service Campaign in January 1939 has had the effect, by imposing age limits for the various categories of service, of reducing the numbers of available volunteers shewn above, and excluding men under 25 and men and women over 50 affected by the scheme, the number of available volunteers remained at 1,068 men and 2,101 women. Moreover, it is now required that a large number of volunteers should be enrolled for full-time service and it has been necessary in consequence to communicate with all the volunteers to discover the extent of their availability having regard to occupations which are now reserved. Although the maximum age limit for active work in the casualty services has been placed officially at 50, it has been agreed to create a reserve of those between the ages of 50 and 60.

#### *Re-organisation of service.*

Since the end of the year further re-organisation has had to be made consequent upon the transfer of the main central control to the Ministry of Health. The effect has been for the approved first aid stations which existed at the end of the year to be withdrawn and mobile posts approved in many cases in place thereof. The work of re-organisation is now being proceeded with, with a view to the recommencement of team training.

### **III.—MATERNITY AND CHILD WELFARE.**

Health centres—vital statistics—scheme—midwifery—ante-natal clinics—post natal clinics—ante and post natal exercises—child life protection—treatment of eye cases—provision of meals—nursery schools and classes — voluntary infant welfare centres — health visitors — Maternity and Child Welfare Conference — maternity assistance — unmarried mothers — institutional provision—ortho-paedic, dental and artificial sunlight treatment—clinic statistics.

## HEALTH CENTRES.

The Council's scheme of health centres was described in last year's report. At the present time the centres provide the following services for the Health and Education Committees :—

### Central health clinic.

Maternity and child welfare—consulting, weighing and waiting rooms.  
 Minor ailments—treatment and waiting rooms.  
 Dental—treatment and recovery rooms.  
 Chest clinic—consulting and waiting rooms.  
 Specialist services—eye, ear, nose and throat ; orthopaedic.  
 Artificial sunlight.  
 X-ray (excluding unit for superficial therapy).  
 Dispensary.

### District health centres—Bedminster, Portway, Speedwell.

Services as above, except chest, orthopaedic, sunlight and X-ray.

Children under five years suffering from minor ailments, ear, nose and throat and orthopaedic afflictions are referred to the specialists who serve both the Health and Education Committees.

During 1938 the following developments took place in the clinic service :—

(a) The re-opening of a clinic at Verrier Road, St. George which was formerly used as a school medical clinic. This was found to be necessary to relieve the pressure on the school medical work at the Central and Speedwell health centres. The clinic at Verrier Road is used as a treatment centre, the children being inspected in the first place by a medical officer at one of the health centres. To this building was transferred an ante-natal clinic which was formerly held in hired rooms in the neighbourhood.

(b) The opening of the Social Centre at Filwood Park in May, 1938, providing accommodation for maternity and child welfare purposes. The maternity and child welfare activities in the area served by this centre were transferred to it. At the present time it is used three mornings per week for ante-natal clinics and three afternoons per week for infant welfare centres.

(c) Arrangements were concluded with the Baths Committee for the use of a suite of rooms adjoining the South Bristol swimming baths for health centre purposes. It is proposed to hold there similar activities to those carried on at Verrier Road, i.e., a treatment centre for school medical work, and ante-natal and infant welfare sessions. The situation of the baths enabled the Health Committee to serve an area of the city not hitherto adequately covered, and to transfer to the premises an ante-natal clinic held in a rented building in the neighbourhood.

(d) The transfer to the Central Health Clinic of the St. Lawrence School for Mothers (a voluntary centre).

Plans for additional centres for the Southmead, Knowle, Brislington and Mina Road districts are in course of preparation.

The statistical table below which gives the attendances during 1937 and 1938 at the various clinics, indicates the marked increase—29·9 per cent.—consequent upon the opening of the new health



centres. These attendances are dealt with in more detail in the relevant sections which follow. Details of the work of the school medical department of the Education Committee are published in a separate report.

### Attendances at clinics.

CLINIC.	1938.	1937.
SCHOOL MEDICAL		
Inspection .. .. .	52,211	36,317
Treatment .. .. .	150,320	114,802
Aural .. .. .	2,831	2,567
Eye .. .. .	7,450	7,510
Milk and meals .. .. .	12,367	10,358
Scabies .. .. .	1,032	368
Ringworm .. .. .	300	352
Immunisation .. .. .	4,922	1,654
Orthopaedic—		
Inspection .. .. .	1,560	1,506
Treatment .. .. .	6,702	6,541
Dental .. .. .	50,597	35,842
Cardio rheumatic .. .. .	1,117	1,202
Speech .. .. .	1,957	1,596
MATERNITY AND CHILD WELFARE		
Ante-natal .. .. .	21,073	19,013
Consultative ante-natal .. .. .	66	—
Post-natal .. .. .	1,887	1,043
INFANT WELFARE		
Children under 1 .. .. .	42,308	32,939
Children 1—5 .. .. .	37,373	31,886
BIRTH CONTROL .. .. .	97	—
ANTE AND POST-NATAL EXERCISES .. .. .	216	—
SPECIAL BACKWARD CHILDREN .. .. .	393	290
SPECIAL V.D. DIAGNOSTIC .. .. .	50	—
CHEST .. .. .	9,750	8,156
SUNLIGHT .. .. .	7,511	5,360
X-RAY : .. .. .	2,527	1,631
Chest .. .. .		
M. & C.W. .. .. .	171	—
School Medical .. .. .	212	—
	417,000	320,933

### MATERNITY AND CHILD WELFARE.

#### Vital statistics.

The statistics relating to live births and stillbirths on page 11 show that the local rates constitute varying degrees of improvement on the rates recorded nationally and by comparable large towns.

#### *Infant mortality.*

*Rate per 1,000 live births.*

	Bristol	England and Wales	Combined County Boroughs
1938	42	53	57
1937	46	58	62
1936	48	59	63
1935	43	57	62

During the year the deaths of 252 Bristol infants under one year were recorded, 23 less than the deaths registered in 1937. These consisted of 143 males and 109 females, of whom eleven males and seven females were born illegitimate. This number gives an infant mortality rate of 42 per 1,000 live births, a decline of 4.

The principal causes of infant death were: prematurity (76), congenital malformations (50), pneumonia (38). The group of diseases covered by such causes as prematurity, malformations and marasmus accounted for 52·7 per cent. of the total, and respiratory diseases 16·7 per cent. There were nine deaths due to infectious disease and one from tuberculosis.

As in previous years, more than one half (59·9 per cent.) of the deaths occurred under one month—a *neo-natal mortality rate* of 24·93 per 1,000 births, compared with 29·11 last year. Of these deaths in the first month, 30 per cent. occurred on the first day of life and 38 per cent. during the next six days; 69 per cent. of the neo-natal deaths were due to prematurity or congenital malformations.

Illegitimate live births numbered 213, and of these 8·4 per cent. died before reaching the age of one year, compared with 5·2 per cent. last year. These deaths represent an *illegitimate infant mortality rate* of 84·51, an increase of 32·15 per 1,000 illegitimate live births over the rate in 1937. The legitimate infant mortality rate per 1,000 legitimate live births was 40·03.

*Diarrhoea and enteritis (under two years).*

*Rate per 1,000 live births.*

	Bristol	England and Wales	Combined County Boroughs
1938	1·98	5·5	7·8
1937	1·8	5·8	7·9
1936	4·07	5·9	8·2
1935	3·15	5·7	7·9

This disease, which formerly occupied a high position amongst causes of infant mortality was responsible in 1938 for 12 deaths of children under two years of age (11 in 1937, 30 in 1936). This figure gives a *diarrhoeal mortality rate* per 1,000 live births of 1·98.

*Maternal mortality.*

	<i>Rate per 1,000 live births</i>		<i>Rate per 1,000 total births</i>	
	Puerperal sepsis	All maternal causes	Puerperal sepsis	All maternal causes
Bristol ... ..	0·49	3·79	0·47	3·65
England & Wales	0·89	3·08	0·86	2·97

During the year, 23 mothers lost their lives from causes directly connected with childbirth, giving a *maternal mortality rate* of 3·65 per 1,000 total births, the figures last year being 24 and 3·85.

The medical officers of the maternity and child welfare section continued their investigations into these maternal deaths. Each case was specially inquired into and detailed reports forwarded to

the Ministry of Health. The actual causes of all the deaths are shown in the table on page 60 with age groups and the number which occurred in institutions.

*Notification of puerperal pyrexia.*

Puerperal pyrexia	Rate per 1,000 total births
Bristol ... ..	13·19
England and Wales... ..	14·42
Combined County Boroughs	18·08

There were 83 cases of puerperal pyrexia notified during the year, giving an attack rate of 13·19 per 1,000 total births, which is much lower than the corresponding rates for England and Wales and the combined county boroughs. Three cases were removed to hospital.

*Notification of ophthalmia neonatorum.*

	Cases	Rate per 1,000 live births.
1938	38	6·3
1937	30	4·9
1936	14	2·4
1935	25	4·4

The number of cases reported was slightly more than the previous year's figure and the attack rate rose by 1·4 to 6·3. The results of treatment in these cases were : 33 vision unimpaired, three vision impaired and two still under treatment at the end of the year. The effective home supervision of such cases by the health visitors, who also dealt in a similar manner with 286 less serious eye cases, is therefore again demonstrated.

*Notification of births.*

	Births		Percentage attended.		
	Live	Still	By doctor	By midwife	In institution
1938	6,714	268	11·8	29·9	58·3
1937	6,655	276	12·75	30·75	56·5
1936	6,490	252	13·9	31·2	54·9
1935	6,112	288	16·9	32·0	51·1
1934	5,982	266	12·3	41·6	46·1

For the fifth year in succession there was an increase in the number of live births notified. Over one half of confinements took place in institutions ; practically all of the increase during the past five years is shewn by the table to have been drawn from midwives' practices.

**Maternity and child welfare services.**

The Council's powers and duties in connection with maternity and child welfare have been delegated to the Health Committee who

have appointed a Maternity and Child Welfare Sub-Committee to administer the service. The supervision of the section is carried out by Dr. M. G. Hughes, chief assistant medical officer for maternity and child welfare. The co-ordination of the medical services in Bristol is so arranged that maternity and child welfare sessions are also carried out by medical officers on the school medical staff, and vice versa.

The scheme includes arrangements with local voluntary organisations. To these organisations the Council make grants as follows :—

To the Bristol Infant Welfare Association in respect of voluntary infant welfare centres provided by them	...	...	...	...	£2,236
To one maternity hospital	...	...	...	...	£450
To one day nursery	...	...	...	...	£375
To mother and baby homes	...	...	...	...	£2,086

The relations between the Council and these voluntary organisations continue to be of the most cordial nature.

The local authority has provided a complete maternity and child welfare scheme with the exception of emergency units and home helps. In regard to the former, this matter is under consideration, and with reference to home helps, a report is at present before the Committee with a view to inaugurating a scheme for their provision. In this connection it may be stated that representations have been made to the local committee by the Bristol and District Branch of the Midwives Institute pressing for such a scheme to be put into operation in Bristol, and pointing out the need for such a service.

#### *Midwifery scheme.*

The year 1938 was the first complete year of working of the municipal domiciliary midwifery service. The scheme includes an arrangement with the Bristol General Hospital and the Bristol Royal Infirmary under which certain areas of the city have been allocated to these hospitals, which employ 15 midwives on their districts. In addition, a certain portion of the city is attached to the municipal hospital at Southmead for district midwifery purposes (two midwives). When the scheme came into operation on 1st October, 1937, eight midwives commenced duty on the districts ; two others were appointed in December 1937 and one more in March 1938, making a total of eleven midwives. The Committee reviewed the position in October last and decided to increase the staff to serve those areas of the city which had proved on the experience of the twelve months' working to be understaffed, viz., an additional wholetime midwife for the Knowle district and part-time locums in any part of the city to relieve pressure of work where necessary and in case of illness. The number of cases dealt with during the year by midwives employed by the Council was 768 as midwives and 236 as maternity nurses. No order has yet been received from the Minister of Health prohibiting the attendance of unqualified persons on women in childbirth. During the year five midwives in private practice surrendered their certificates under the Midwives Act 1936.



The number of midwives practising at the end of the year was 90, including 22 municipal midwives. Midwives continue to take full advantage of the arrangements for sending for medical help at confinement and claims from medical practitioners rose again in 1938 to 381.

#### *Ante-natal clinics.*

A scheme was prepared in 1938 in conjunction with the voluntary hospitals whereby the routine ante-natal work should be carried out at the municipal clinics, the hospital providing a consultative clinic only, to which are referred the patients attending the routine clinics who have booked the hospital district midwives or are to be admitted to that hospital for confinement. Such an arrangement with the General Hospital commenced on 1st October, 1938, and is subject to review after a period of twelve months. It is hoped to make a similar arrangement with the Bristol Royal Infirmary during 1939.

#### *Post-natal clinics.*

During the year the Committee's post-natal scheme was extended by the opening of post-natal sessions at the Bedminster and Speedwell Health Centres. At the end of the year, there were in existence facilities for this work in four health centres.

#### *Ante and post natal exercises.*

Arrangements have been made for a weekly session to be held at the Central Health Clinic for ante and post-natal exercises. The masseuse and remedial gymnast on the staff of the Education Committee devotes one session per week to ante-natal and post-natal exercises, and during the period of the year since the session has been started, 58 patients attended, making 216 attendances.

#### *Child life protection.*

During the year a change was made in the scheme for the supervision of children under the Child Life Protection Acts. Hitherto, the visiting was carried out by a special officer attached to the health visiting staff. It was decided during the year to transfer the routine visiting of children to the health visitors, leaving the primary inspections only to be made by the special officer. In the case of children of school age, the children are kept under supervision by the school nursing staff.

#### *Treatment of eye cases.*

Arrangements were made during the year for referring to the eye clinics held by the Health and Education Committees in the health centres, expectant and nursing mothers needing eye treatment. The scheme also included the provision in necessitous cases of spectacles where such had been prescribed by the consultant ophthalmologist.

#### *Provision of meals.*

The scheme for the provision of meals to expectant and nursing mothers and children under five, remains as described last year. A total of 22,735 meals were supplied during 1938.

*Nursery schools and classes.*

At present the accommodation provided for nursery schools and classes comprises four nursery schools, giving 660 places, 21 nursery classes giving 809 places, and six reception classes giving 230 places.

The medical and nursing supervision of these nursery classes is carried out by the medical and nursing staff of the maternity and child welfare section.

*Voluntary infant welfare centres.*

Closer co-operation with the voluntary infant welfare centres has been obtained by placing in certain centres the health visitors on the staff of the health department instead of the part-time nurses employed by the centres. This entailed a revision of the grants to each centre.

*Health visitors.*

The health visiting staff numbers 31 under the supervision of a superintendent health visitor. During the year it was found that the increasing call on the health visitors by their attendance at nursery classes and the growing number of maternity and child welfare clinic sessions necessitated a review of the staff, and as a consequence the Committee decided to increase the number by eight (see page 29). An experiment is now being carried out at Portway Health Centre for the complete co-ordination of the health visiting and school nursing services. There the school nurse and the health visitor attached to the centre have the complete school nursing and health visiting duties divided between them.

*Health visitors training course.*

Of the eleven pupils taking the health visitors training course, which is held in conjunction with the University of Bristol, nine were successful in passing the examination of the Royal Sanitary Institute.

*Maternity and Child Welfare Conference 1938.*

The annual conference on maternity and child welfare was held in Bristol in July. By the courtesy of the authorities of the University, the conference meetings were held in the Great Hall. The conference was well attended, and the subject was "The Child of the Future," which was dealt with from various aspects. A full report of the conference appeared in the August 1938 issue of "Mother and Child."

*Applications for maternity assistance. (see page 57).*

There was again a large number of applications for admission to hospital for confinement and of these 1,211 were admitted to Southmead Hospital. Of the 4,069 mothers confined in institutions in 1938, 1,270 received grants towards the cost of the maternity bed. Milk grants during the year totalled 5,164, the total quantity of milk granted being 22,711 gallons.

Other forms of confinement assistance include the selling of sterilised maternity outfits at cost price and loaning of maternity bags in necessitous cases.

*Other maternal services.*

The services of consultants in cases of difficult labour and puerperal pyrexia are at the disposal of any doctor when required, and an arrangement has been made with the Bristol General Hospital for the admission of cases of complicated labour, if necessary ; 13 cases were referred to consultants during 1938.

Arrangements have been made for pathological examination at the department of preventive medicine of material submitted by doctors.

*Unmarried mothers.*

1937	CASES ASSISTED	1938
157	Applications received ... ..	189
22	Remaining over from last year ... ..	29
69	Admitted to Southmead Hospital ... ..	115
24	Confined at mother and baby homes ... ..	17
	Other assistance given in confinement or not needed ... ..	45
—	Transferred to another area ... ..	4
5	Applications withdrawn ... ..	12
29	Arrangements not completed ... ..	25

As a matter of policy in regard to the placing of an illegitimate child under the Infant Life Protection Act, the Health Committee are of opinion that where it is desirable in the interest of the child for an illegitimate child to be legally adopted into an approved family, and subject to the mother's consent being obtained, the welfare officer should make arrangements accordingly.

The welfare work in connection with unmarried mothers is carried out in Bristol by Mrs. N. H. Stott, the welfare officer to the Public Assistance Committee and the Health Committee, who reports as follows :—

During the year applications were received from 189 girls and women, either for assistance relating to the birth of an illegitimate child, or for help to enable the applicant to maintain an illegitimate child : 156 were in respect of a 1st child ; 24, 2nd ; 4, 3rd ; 4, 4th ; 1, 5th. In those cases where the child was a fourth or fifth illegitimate child, with one exception, the woman was co-habiting with the father of her children.

In addition, arrangements had to be made in 29 cases outstanding from 1937, making a total of 218. The results were as follows :— 108 confined at Southmead Hospital and 7 admitted immediately after birth of child ; five abortions or stillbirths ; 17 confined at mother and baby homes ; nine married before birth of child ; three medical assistance in confinement ; 28 assistance in confinement not sought ; four left Bristol before birth of child ; 12 applications withdrawn and in 25 cases child not yet born.

It is increasingly difficult to convince the unmarried mother of the advantages of going to a mother and baby home. Usually applicants know of the possibility of admission to Southmead



Hospital, with the privileges and facilities, and they will not compare favourably the prospect of several months in a home with the ability to take their discharge within two or three weeks, except in those cases where parents bring some pressure to bear on account of home conditions, or the applicant has no home. The fact that help from the Unemployment Assistance Board is available soon after confinement is another inducement to many to return home, though not infrequently this brings difficulty in finding a home for the child, as in many instances the child is not received into the family. During the year 70 girls were admitted to various homes.

An analysis of the affiliation work in connection with the 279 cases dealt with shows :—

24	affiliation orders
2	applications for affiliation orders dismissed
56	agreements
2	adopted
7	not entitled to summons (married women)
11	married putative father
3	married to another man
7	returned to live with putative father
11	putative father not known
10	putative father not traced
1	putative father certified M.D.
1	putative father gone abroad
25	no corroboration
1	putative father died
1	mother died
8	abortion, stillbirths, or child died
12	removed from area
12	applications withdrawn
85	incomplete

Money received and disbursed during the year amounted to £6,088 1s. 3d. This involves much work as most of this sum is received in small amounts, but is most valuable as a means of giving practical help with little cost to many who are themselves in employment, and unable to collect their own money. The large number of agreements obtained necessitates a considerable amount being paid direct to the office so that proper records are kept. On the whole it is noticed that in affiliation cases payments under agreements are very satisfactory. The putative father is usually more willing to make his contribution.

During the year 97 married women were referred to the office.

In 29	cases	maintenance orders obtained
2	„	orders for maintenance of children under the Guardianship of Infants Act obtained
2	„	applications for maintenance orders dismissed
6	„	parties reconciled
12	„	amount of order increased
5	„	amount of order decreased (owing to unemployment of defendants)
6	„	husband's application for reduction of order dismissed
1	„	wife's application for increase of order dismissed



Voluntary homes give great assistance in admitting babies where the mother can only pay a small amount for maintenance. In several cases only 2/6 or 3/- weekly has been asked for full maintenance. In 29 cases admission has been arranged in such homes and in 15 cases admission has been obtained at the night nursery.

Four mothers have received weekly grants to assist them with payments to foster mothers.

### **Institutional provision for mothers and children.**

The institutional accommodation provided for mothers and children is as follows :—

Bed accommodation	Municipal	Voluntary
Maternity ... ..	44*	169
Children (general) ... ..	42	152
Children (orthopaedic, tubercular, heart)	96	68
Children's Home ... ..	196 P.A.C.	—
Residential Nursery and Babies' Home	82 Health	55
* To be increased to 100 in 1939.		

Other forms of institutional provision exist for the benefit of women, including unmarried mothers, such as the Salvation Army Home and Grove House Home, where girls are taken pending, during and after confinement, and at the Diocesan Refuge and Elm House pending and after confinement.

Arrangements for the reception and maintenance of infants under five years of age remain as reported last year.

There is need in Bristol for the provision of day and night nurseries. At present the accommodation available consists of one voluntary day nursery (25 places), one municipal day nursery (20 places)—accommodated temporarily in the Central Health Clinic—and one night nursery (24 beds) in a building in the centre of the city which was used as a clinic prior to the opening of the new health centres, together with accommodation for 60 children in the Babies' Home, Downend.

The Health Committee are giving this matter of suitable day and night nursery accommodation their serious consideration. There is real need for such accommodation.

### **Other services.**

#### *Orthopaedic treatment.*

The municipal scheme for orthopaedic treatment includes the examination of children by specialists (at clinics provided by the school medical service), artificial sunlight treatment, and institutional treatment when necessary at Southmead and Frenchay Park Hospitals. In addition, orthopaedic treatment is carried out at the voluntary institutions. There were 311 new patients dealt with at the orthopaedic clinic and six patients admitted to Frenchay Park.

*Dental treatment.*

Dental treatment for expectant and nursing mothers and children up to the age of five years is carried out at the health centres. Details of the types of cases and treatment given are contained in the dental report published in the appendix.

*Artificial sunlight treatment.*

During 1938, the artificial sunlight department at the Central Health Clinic dealt with 693 new patients.

**A survey of infant welfare work in Bristol 1928-1938**

*by Dr. M. G. Hughes, Chief Assistant Medical Officer  
for Maternity and Child Welfare.*

In 1928 following the appointment of the late Dr. R. A. Askins as medical officer of health and a detailed inspection of the maternity and child welfare service in Bristol by the Ministry of Health, the Council decided that reorganisation with development of that service was desirable, and urgently necessary. In the programme prepared the following suggestions were in the mind of the Committee: (i) the establishment of a central clinic which would accommodate a number of the existing clinics, (ii) the re-organisation of the health visiting service, (iii) the appointment of a whole-time assistant medical officer of health in the maternity and child welfare department.

At this time there were no municipal infant welfare centres, but there were 24 schools for mothers with a total of 28 sessions weekly. These schools for mothers were conducted under the regulations of a voluntary association—the Bristol Infant Welfare Association and Council of Schools for Mothers—and received a grant towards their expenses from the Bristol City Council and from the Ministry of Health.

The attendances at the Schools in 1928 were :—

Children under one year	...	1,432
Children one to five years	...	2,227
New cases per cent. of the births		7·3

*Progress.*

It may be stated that from this time infant welfare work began to develop rapidly, the need becoming greater with the increase of slum clearance. Large numbers of mothers and children were moved to the rapidly growing housing estates on the outskirts of the city. In most cases these were some considerable distance from medical facilities and the mothers who had not previously attended centres were anxious now to attend.

It became imperative to open infant welfare centres in these areas, and steps were taken by the City Council to do so in certain districts. At the same time there developed a closer co-operation between the municipal and voluntary organisations. Municipal medical officers of health and health visitors were appointed to

some of the voluntary centres, thus preventing much of the overlapping in the home visiting which had existed before. When municipal centres were opened, the voluntary association was asked to find voluntary helpers to work in those centres. The work was carried out in hired premises, many of them unsatisfactory and unsuitable for the purpose.

In 1935 the City Council opened the joint health centre at Portway, the first *ad hoc* maternity and child welfare building to be erected in Bristol. This was followed by the Bedminster and Speedwell Health Centres and the Central Health Clinic at Tower Hill. Some of the existing centres were closed and some were accommodated in these health centres.

It was thought at first that the new buildings would deter rather than attract the mothers and children, that the atmosphere was not homely and that the municipal staff in their white uniforms were too much in evidence. In a very short time it was realised that these fears were groundless; on the contrary, the satisfactory premises and equipment raised the efficiency of the work with the result that the people came to appreciate the service more and more and it became almost impossible to deal with the rapid increase in numbers.

It is interesting to compare the figures in 1938 with those in 1928.

	1928	1938
Voluntary centres .. .. .	24	14
Voluntary centres with municipal medical officers and health visitors .. .. .	nil	{ 2 M.O's 6 H.V's
Municipal centres .. .. .	nil	6
Total number of sessions—		
Voluntary sessions .. .. .	28	19
Municipal centres .. .. .	nil	19
Attendances of children under 1 year .. .. .	1,432	42,308
Attendances of children 1—5 years .. .. .	2,227	37,373
New cases per cent. of the births .. .. .	7.3	67.6

### *Method in centres.*

The work carried out in an infant welfare centre is essentially preventive and educational; it is not a place for the treatment of the sick child; the aim is to assist the mother to keep her normal child normal.

The social side of the work is valuable, and it is only the large number of willing and capable voluntary helpers that makes it possible to carry out this part of the work. The voluntary helpers assist with the keeping of registers and look after the babies and toddlers in the nurseries while the mothers attend lectures. They are also responsible for thrift clubs, blanket clubs, etc.; they help the mothers with knitting and needlework; they arrange both a summer outing and a Christmas treat of some kind, and in other ways do much that is a very real help to the mothers.

An important part of the work of the centre is the lecture or demonstration which takes place at every session. It will be realised that arranging these lectures means a great deal of work; 38 lectures are given each week in the centres. Many of the lectures are arranged through the voluntary association, a grant



being given for this purpose by the city. A definite syllabus is followed, so that the mothers get teaching on a variety of subjects, such as needlework, cookery, family budgets, the care of the normal child, medical subjects, "safety first," the social services, etc. If the mothers are to get the greatest value from the lectures the children must be in the nurseries and this can only be done if there is a sufficient number of helpers to look after them. The voluntary association has realised the value and possibilities of this section of the work and arranges an annual meeting when suitable subjects concerning it are discussed ; there is usually an attendance of about 200 nursery helpers.

The medical side of the centres has been re-organised. It was found that children were being weighed more frequently than was necessary, which often caused the mothers needless anxiety and was a waste of time. A scheme for regular weighing according to age has been worked out ; exceptions are made if the medical officers desire.

Similarly, a scheme for the supervision of every child by the doctor is now carried out. The purpose of the medical work is to supervise the development of the normal child, therefore regular routine inspections should take place and at certain intervals the child must be completely undressed. Many defects are missed when this is not done. There is still a tendency in some quarters to look on the visit to the doctor as a visit to an out patient department and to lose sight of the preventive aspect of the work.

Every child attending the centre who is not seen by the doctor is seen by a health visitor. When the child is attending regularly this takes very little time, but it ensures that nothing is missed and the mothers are glad of the opportunity to get advice on problems as soon as they arise. The "drugs" which may be used at the centre are limited mainly to foods such as cod liver oil and iron preparations, etc. ; no dried milks are used.

There is no doubt that the standard amongst the mothers has been raised. This is seen in the care of the child generally, in the willingness to learn, in the better needlework and cookery sent in for competitions and the more satisfactory answers to questions set in tests from time to time.

The infant mortality rate in 1928 was 58·7 per 1,000 and in 1938 it fell to 44·02 per 1,000 ; while it is realised that there are many other factors which are responsible for this fall, a proportion of it must be due to the infant welfare work, that is, the work in the centres, and the visiting in the homes, which has been carried out during the last ten years.

### *The general practitioner.*

With the growth of the work there has been a feeling of resentment on the part of the general practitioners who think that they may be gradually deprived of an important part of their practices.

It will be realised that the increased demand by the public for the services of the local authority is to be accounted for by the fact that some need, not previously satisfied, is now available. The



mothers of our city demand more knowledge of infant feeding and concerning the care and general hygiene of the normal child and they want to be forearmed against disease by a knowledge of preventive medicine. To satisfy these demands local authorities have facilities which the average general practitioner does not possess, nor can he be expected to devote his time to the special study of details entailed in the educational aspect of preventive medicine. This branch of medicine is as much of a special study as any other that is justified. We are convinced of this fact by our experience of doctors at our clinics. The fact is also appreciated by full time doctors who undertake this work for the first time.

The work of these clinics is strictly limited to the preventive aspect, apart from minor ailment treatment. A child who attends a centre or who is visited in the home by the health visitor and is found to be in need of treatment is referred in the first place to his own doctor if he has one, otherwise he is referred to a treatment clinic or to a hospital according to circumstances.

Some general practitioners welcome the health visitor ; they even refer cases to her for advice on infant feeding and other matters ; they are glad to refer their cases to a clinic because the patients are those who are unable to pay doctors' bills. Where the health visitor is in touch with the general practitioner the position is most satisfactory, because when she is aware of treatment advised by him, she can often help the mother to carry out that treatment.

#### *Attendances.*

An enquiry was made to try and find out the type of mothers attending these centres and the conclusion reached is that they are the mothers who need the service most. The following table indicates this quite clearly and show the attendances of mothers with a first child and subsequent children.

Mothers who had had five, six or seven children and who were attending centres were asked for their reasons and their replies confirmed the statement that they attended because they were able to get the help they were needing.

No. of mothers with	Mother who began attendance with												
	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	11th	12th	13th
1 child	673	..	..	..	..	..	..	..	..	..	..	..	..
2 children	218	206	..	..	..	..	..	..	..	..	..	..	..
3 "	53	39	66	..	..	..	..	..	..	..	..	..	..
4 "	23	9	13	40	..	..	..	..	..	..	..	..	..
5 "	6	2	3	7	16	..	..	..	..	..	..	..	..
6 "	3	9	1	2	2	8	..	..	..	..	..	..	..
7 "	..	..	1	..	1	2	9	..	..	..	..	..	..
8 "	2	..	..	..	..	3	2	3	..	..	..	..	..
9 "	..	..	..	..	..	1	..	..	..	..	..	..	..
10 "	..	..	..	..	..	..	..	1	..	2	..	..	..
11 "	..	..	..	..	1	..	..	..	..	..	1	..	..
12 "	..	..	..	..	..	..	..	..	..	..	..	1	..
13 "	..	..	..	..	..	..	..	..	..	..	..	..	1
Total	978	265	84	49	20	14	11	4	..	2	1	1	1

Many mothers attend regularly because they or their children are receiving free milk or dinners and it is essential that they should be under supervision. Most mothers attend regularly because they

do not want to miss the lectures, they say there is always something new to learn. Sometimes there is difficulty at first in getting mothers to attend the lectures, but when they have once done so there are many complaints if, for any reason, they have to miss the lecture.

The reasons given by many of these mothers for attending are :—

1. Several had had twins after having had other children and attended because difficulties arose with the twins.
2. Several attended for the first time with the second or third child to see what it was like and said they wished they had attended with their first children, they would not miss on any account now.
3. Some with five, six or seven children had moved in from other areas where they had had little help and were thankful to be able to attend regularly and get the information they required.
4. In some cases there had been a death and then a new baby ; the mother was anxious to attend especially if this baby were premature or delicate.
5. Some were sent by their own doctors with a fourth or fifth child and they wished they had always attended.
6. In some cases with large families the babies had come quickly, there were breast feeding difficulties or one of the children was mentally and physically backward.
7. Some had breast fed several babies and then had had to put the new baby on the bottle and wanted advice.
8. Many with large families were very poor and therefore debilitated and needed all the help the centre could give.

These reasons show that mothers come to the clinics because they find they can get the help they are needing, and sometimes they say that they have failed to get that help elsewhere.

### *Visiting in the homes.*

The increase in the work, including staffing a number of the voluntary centres has meant great pressure on the health visiting staff, and of course this is not the only branch of the work which has grown. The nursery school and class work which is a most useful adjunct to the infant welfare work, takes up a great deal of the time of the nursing staff.

Owing to the greater demand upon the time of the health visitors there has been a large decrease in the visits paid to the houses. This is most unfortunate for home visiting is the basis of maternity and child welfare work ; the visits paid in the home by the health visitor where she can talk to the mothers quietly and see her in the midst of her problems and difficulties is invaluable ; besides, the knowledge of the home conditions which is acquired is important and should be available at the centres.

Often a child who is not brought to the centre for various reasons is a child who is needing advice and regular supervision, but, as the visiting is so much in arrears, these visits have to be curtailed considerably. Children attending centres do not need regular home visiting, but an occasional visit to them is essential. Special visits of this kind however take longer and the results tend to be less satisfactory.

*The future.*

Infant welfare work has already passed through certain phases ; the present stage, with its crowded centres which are going to mean less efficient work, will have to be considered. In conjunction with this there is the fact that the health visitor is now a well trained, experienced officer who should be qualified to take over more of the responsibility of the supervision of these children.

With the re-organisation of the medical work in our centres she is already doing much more individual teaching which, after all, she has been doing in the homes for many years. It is possible that this may be developed further, in the future, and that the doctor will act chiefly as a consultant, though there will always be the need for certain routine medical examinations if the work is to be a complete success.

Consideration also will have to be given in the future as to the best method of dealing with the large numbers who attend the centres.

The preventive and educational aspect of the work should be emphasised even more than it is at present. Sir George Newman, the late chief medical officer of the Ministry of Health, has said that the state cannot save the children, it can only help the mothers to save them ; and it is essential that this aspect should be stressed in the work. More teaching is required in what may be called mothercraft and homecraft in the widest sense of the words. Under these headings there should be included budgeting—the wise planning of the family income—and perhaps most important of all, food values. Comparatively little is known about this by the general public, even where there are no financial difficulties. It is of the greatest importance that, where the income is small, the money shall be spent on food that not only satisfies the child but makes for healthy physical growth and mental development.

Another point which it would be well to consider in the near future is the fact that while the mother of the child under five is learning how to care for that child and how to deal with the problems which arise at that age, she does not appear to know as much about the care of the older child. The standard of the general care of the small child has improved to such an extent during the last ten years that an attempt to continue that care into the school period should be well worth while. One cannot help thinking that the conditions of school children would improve still more if something on these lines could be carried out.

## Maternity and Child Welfare Statistics.

			1938.	1937.
NOTIFICATIONS.	Live births .. ..	..	6,714	6,655
	Stillbirths .. ..	..	268	276
	Puerperal pyrexia .. ..	..	83	45
	Ophthalmia neonatorum .. ..	..	38	30
	Confinements at home :—			
	by doctor .. ..	..	823	707
	by midwives .. ..	..	2,090	2,141
	Confinements at institutions .. ..	..	4,069	4,083
ATTENDANCES AT CLINICS.				
(a) ANTE-NATAL	No. of clinics provided .. ..	..	10	10
	No. of weekly sessions .. ..	..	20	16
	Total new patients during year .. ..	..	3,382	3,240
	Total number of attendances .. ..	..	21,073	19,013
(b) CONSULTATIVE ANTE-NATAL	No. of clinics provided .. ..	..	1	—
	No. of weekly sessions .. ..	..	1	—
	Total new patients during year .. ..	..	64	—
	Total number of attendances .. ..	..	66	—
(c) POST-NATAL	No. of Clinics provided .. ..	..	4	2
	No. of weekly sessions .. ..	..	3	2
	Total new patients during year .. ..	..	1,621	668
	Total number of attendances .. ..	..	1,887	1,043
(d) INFANT WELFARE CENTRES.	MUNICIPAL—			
	No. of centres provided .. ..	..	6	6
	No. of weekly sessions .. ..	..	20	16
	Total new children during year .. ..	..		
	Under 1 year .. ..	..	2,627	1,222
	Over 1 year .. ..	..	844	342
	Total attendances by children .. ..	..		
	Under 1 year .. ..	..	23,216	12,172
	Over 1 year .. ..	..	18,010	7,478
	VOLUNTARY.			
	No. of clinics provided .. ..	..	14	15
	No. of weekly sessions .. ..	..	19	19
	Total new children during year .. ..	..		
	Under 1 year .. ..	..	2,160	1,687
	Over 1 year .. ..	..	414	504
	Total attendances by children .. ..	..		
	Under 1 year .. ..	..	19,092	20,767
	Over 1 year .. ..	..	19,363	23,408
(e) BIRTH CONTROL.	No. of clinics provided .. ..	..	1	—
	No. of weekly sessions .. ..	..	1	—
	Total new patients during year .. ..	..	34	—
	Total attendances .. ..	..	97	—
(f) ARTIFICIAL SUNLIGHT.	No. of clinics provided .. ..	..	1	1
	No. of weekly sessions .. ..	..	7	7
	Total new patients during year .. ..	..	693	486
	Total attendances .. ..	..	7,511	5,360
(g) SPECIAL CLINIC FOR BACKWARD CHILDREN	No. of clinics provided .. ..	..	1	1
	No. of weekly sessions .. ..	..	1	1
	Total new patients during year .. ..	..	33	28
	Total attendances .. ..	..	393	290
(h) V.D. DIAGNOSTIC.	No. of clinics provided .. ..	..	1	—
	No. of weekly sessions .. ..	..	1	—
	Total new patients during year .. ..	..	45	—
	Total attendances .. ..	..	50	—
(i) EXERCISES.	No. of clinics provided .. ..	..	1	—
	No. of weekly sessions .. ..	..	1	—
	Total new patients during year .. ..	..	58	—
	Total attendances : Ante-natal .. ..	..	32	—
	Post-natal .. ..	..	184	—
(j) DENTAL.	Total new patients during year—			
	Expectant mothers .. ..	..	217	—
	Nursing mothers .. ..	..	531	—
	Children under 5 years .. ..	..	1,350	—
	Total attendances—			
	Expectant mothers .. ..	..	717	—
	Nursing mothers .. ..	..	1,584	—
	Children .. ..	..	2,284	—
(k) MINOR AILMENTS IN CHILDREN.	New patients during year .. ..	..	2,515	651
	Total attendances—inspections .. ..	..	2,865	779
	treatments .. ..	..	7,930	1,073



## Maternity and Child Welfare statistics.—continued.

			1938.	1937.
(l) EAR, NOSE AND THROAT.	New patients .. ..	..	291	65
	Total attendances—inspections ..	..	310	149
	treatments ..	..	1,066	411
(m) ORTHOPAEDIC.	New patients .. ..	..	311	244
	Total attendances—inspections ..	..	427	384
	treatments ..	..	682	407
(n) EYE.	New patients .. ..	..	165	100
	Attendances .. ..	..	616	315
(o) SCABIES BATHS.	New patients—adults .. ..	..	96	13
	children .. ..	..	56	9
	Attendances—adults .. ..	..	227	28
	children .. ..	..	140	19
MILK GRANTS.	Grants made during year to :—			
	Expectant mothers .. ..	..	796	507
	Nursing mothers .. ..	..	1,304	858
	Children under 5 .. ..	..	3,064	2,064
	Total quantity of milk granted (in gallons) .. ..	..	22,711	13,134
FREE MEALS.	New cases approved—			
	Expectant mothers } ..	..	189	197
	Nursing mothers } ..	..		
	Children under 5 .. ..	..	181	206
	Total number of meals provided :			
	Expectant mothers } ..	..	11,498	4,287
	Nursing mothers } ..	..	11,237	4,950
DENTURES.	No. of dentures provided—			
	Complete dentures .. ..	..	174	117
	Partial dentures .. ..	..	37	35
SPECTACLES.	No. of pairs of spectacles provided		5	—
SERVICES OF DOMICILIARY MIDWIVES.	No. of cases dealt with by municipal midwives under Midwives Act 1936 :			
	(a) By midwives employed by Council—			
	As midwives .. ..	..	768	245
	As maternity nurses .. ..	..	236	65
	(b) Under arrangements made with local voluntary hospitals :			
	As midwives .. ..	..	632	100
	As maternity nurses .. ..	..	20	2
MIDWIVES CLAIMS FOR COMPENSATION FOR LOSS OF FEES.	No. of Claims .. ..	..	7	13
FEES CLAIMED BY MEDICAL PRACTITIONERS.	No. of claims .. ..	..	381	366
CONSULTANT OBSTETRICIAN.	No. of cases .. ..	..	13	7
MATERNITY BEDS.	No. of admissions to municipal hospital		1,211	1,015
	No. of admissions to mother and baby homes .. ..	..	59	58
ORTHOPAEDIC BEDS.	No. of admissions to Frenchay Park Orthopaedic Hospital .. ..	..	6	6
MEDICAL STAFF.	Medical Officers—whole-time ..	..	5	3
HEALTH VISITORS.	Superintendent .. ..	..	1	1
	Health Visitors .. ..	..	35	26
	Visits during year :			
	To notified births—primary ..	..	5,783	5,435
	under 1 ..	..	14,274	14,553
	1 to 5 ..	..	47,418	49,401
	Eye cases .. ..	..	1,390	1,424
	Ophthalmia neonatorum .. ..	..	144	137
	Penphigus neonatorum .. ..	..	—	4
	Summer diarrhoea .. ..	..	14	13
	Ante-natal visits .. ..	..	1,129	1,440
	Neo-natal deaths .. ..	..	101	132
	Special .. ..	..	4,281	3,413
	Blank visits .. ..	..	17,667	16,592
	Attendances at clinics—municipal ..	..	3,179	2,866
	voluntary ..	..	1,394	580
	Lectures .. ..	..	127	199
	Tuberculosis visits .. ..	..	1,116	2,768
	„ blank visits .. ..	..	287	668
	Sessions at nursery schools and classes		1,201	—

Maternity and Child Welfare statistics.—*continued.*

		1938.	1937.
INSPECTOR OF MIDWIVES AND NURSING HOMES.	Visits to—		
	Child life protection cases ..	988	989
	Mental deficiency .. ..	359	456
	Midwives Acts (routine inspections) ..	162	198
	Special visits .. ..	181	102
	Nursing homes—routine ..	100	91
	special .. ..	21	10
MIDWIFERY SERVICE.	No. of midwives practising in area at end of year :		
	(a) Municipal .. ..	22	25
	(b) Other .. ..	68	75
	Midwives in private practice ..	33	49
	Midwives attached to hospitals ..	43	41
	No. of midwives who voluntarily surrendered their certificates under the Midwives Act 1936 ..	5	—
	No. of midwives who were compulsorily required to surrender their certificates under the Midwives Act, 1936 .. ..	—	—
C.M.B. FORMS.	FORM A.—Medical help :	1,191	1,107
	Threatened abortion .. ..	4	4
	Abortions .. ..	6	6
	Albuminuria .. ..	10	12
	Prematurity .. ..	10	8
	Ante-partum haemorrhage ..	52	29
	Delayed labour .. ..	112	94
	Complicated labour .. ..	16	17
	Ruptured perineum .. ..	411	364
	Adherent placenta .. ..	20	35
	Post partum haemorrhage ..	22	26
	Raised temperature .. ..	81	47
	Feebleness of child .. ..	14	23
	Discharging eyes .. ..	168	199
	Rash .. ..	16	21
	Other causes .. ..	249	222
	FORM B — Death .. ..	14	26
	„ C — Stillbirths .. ..	31	53
	„ D — Laying out the dead ..	9	8
	„ E — Liability of infection ..	51	49
	„ F — Artificial feeding ..	29	36
CHILD LIFE PROTECTION.	Children under supervision at end of year .. ..	141	146
	Persons registered as receiving children	128	139
	Children removed from register on reaching age limit .. ..	12	4
	Children transferred to relatives ..	50	34
	Children legally adopted .. ..	19	13

1938.

## INFANT MORTALITY.

Total 1936	Total 1937	CAUSE OF DEATH	Under one day	Under one week	Weeks			Total under one month	Months									Total 1938	Deaths in Quarters																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
					1	2	3		1	2	3	4	5	6	7	8	9		10	11	1st	2nd	3rd	4th																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
5	...	{ Measles ...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	1	...	...	5	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...

## MATERNAL MORTALITY.

CAUSE OF DEATH.	1931	1932	1933	1934	1935	1936	1937	1938—AGE GROUPS.					Total	
								15—	20—	25—	30—	35—		40+
Puerperal sepsis ..	3	3	5	3	3	7	4	—	1	—	—	1	—	3
Septic abortion ..	6	1	5	4	2	—	4	—	1	—	—	—	—	—
Abortion ..	—	—	—	—	—	—	4	—	—	—	—	—	—	—
Placenta praevia ..	1	1	3	2	2	—	1	—	—	—	—	—	—	—
Post-partum haemorrhage	1	1	2	3	—	2	2	—	1	—	—	—	—	—
Obstetric shock ..	1	4	4	1	3	5	1	—	—	—	—	—	—	—
Embolism ..	3	1	3	4	1	3	4	—	—	—	—	—	—	—
Puerperal toxæmia	2	1	4	7	4	—	1	—	1	—	1	1	1	4
Ruptured ectopic gestation	1	2	—	—	—	1	1	—	—	—	—	—	—	—
Eclampsia ..	—	1	—	—	—	1	4	—	—	—	—	—	—	—
Ruptured uterus ..	—	1	—	—	—	—	—	—	—	—	—	—	—	—
Intestinal obstruction	1	1	—	1	—	—	—	—	—	—	—	—	—	—
Uraemia ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Dystocia ..	—	—	—	—	—	—	—	—	—	—	—	1	—	1
Total ..	19	16	26	25	15	19	24	—	4	6	4	8	1	23
Rate per 1,000 total births	3·15	2·64	4·44	4·19	2·51	3·10	3·85	—	—	—	—	—	—	—
Deaths in institutions ..	11	10	18	19	13	15	17	—	4	4	2	6	1	17
Age groups—														
15—20	—	1	2	2	1	—	1							
20—25	2	3	6	2	—	3	4							
25—30	8	3	4	5	3	4	7							
30—35	2	3	9	6	3	4	5							
35—40	5	5	3	10	5	4	2							
40+	2	1	2	—	3	4	2							



## IV.—SANITARY CIRCUMSTANCES AND HOUSING.

### (a) Sanitary circumstances.

Water—drainage and sewerage—rivers and streams—closet accommodation—refuse collection and disposal—Shops Acts—smoke abatement—swimming baths and pools—eradication of bed bugs—cleansing and disinfection—animal or insect pests—sanitation in schools—premises and occupations controlled by byelaws or regulations—Rag Flock Acts—cemeteries—table of sanitary inspection, notices, etc.—factory and workshop table.

### (b) Housing.

Prevention and abatement of overcrowding—five years' programme—clearance orders—repair procedure—houses represented in clearance areas—statement of housing proceedings (circular no. 1,561).

### A.—SANITARY CIRCUMSTANCES.

The chief sanitary inspector (Mr. J. A. Robinson, F.S.I.A.) has furnished the following report on the work of his department in accordance with article 27 of the Sanitary Officers (outside London) Regulations, 1935.

The table on page 74 summarises the work accomplished during the year under review; 1,631 complaints were received and altogether 56,775 visits were made by the staff for all purposes resulting in the service of 1,163 notices of an informal character in respect of Public Health Act nuisances. In addition, 147 formal notices and orders were served. These notices and orders affected the abatement of insanitary conditions including the relaying or repair of 2,003 drains; the provision of 694 flushing appliances to waterclosets where none existed previously and the replacement of 815 obsolete closets by modern pans; washing conveniences were installed in 159 houses and facilities for the proper storage, preparation and cooking of food made satisfactory in 311 houses; new and additional water supplies were provided for 32 houses and 1,164 roofs repaired.

1,415 houses were inspected for action under the appropriate sections of the Housing Act 1936. 556 houses were satisfactorily repaired (163 after informal action, 190 after formal action and 103 undertakings to repair complied with).

412 houses were dealt with by clearance order procedure.

Court proceedings were taken during the year to enforce the abatement of nuisances in three instances.

#### Water.

I am indebted to the general manager of the Bristol Waterworks Company for the following information:—

The Company's reservoirs are at present full or over-flowing, and there is no anxiety as to the sufficiency of the supply in 1939. Every step is taken by the Company as regards filtration and sterilisation to maintain the usual high standard of purity of the water supplied to the district, which is shown by frequent chemical and bacteriological analyses. During the year the Company installed a laboratory and appointed a whole time chemist to carry out the chemical and bacteriological analyses of the waters as derived from the various sources and delivered to the consumers, work which was formerly carried out by a local firm of analytical chemists. A constant supply to the district has been afforded throughout the year.

During the year 1938 the Company's inspectors continued to make enquiries, in all cases where new houses became occupied, as to the previous addresses of the occupiers, and the following information was obtained:—

1937.		1938.
108	Removed from houses closed under demolition orders ... ..	654
546	Just married ... ..	498
1,099	From houses in Bristol ... ..	1,320
536	From rooms or flats in Bristol ... ..	500
362*	From outside districts ... ..	389*
*(1,096 persons)		*(1,168 persons)

Regular analyses of the city water supply are carried out at the department of preventive medicine, and the results of these examinations will be found in the report of the department (see appendix). Samples are taken fortnightly from the Sherbourne spring water at Knowle for bacteriological examination and chemical analysis, and samples from the tap at Canynge Hall every week.

1937	SUMMARY	1938
22½ miles	Length of new water mains laid	19½ miles
5,541,504,000	Gallons supplied to district ...	5,543,425,000
105,068	Dwelling houses connected to mains ... ..	107,674
25.49 galls	Average supply for domestic purposes per head ... ..	24.69 galls
7	Notices served to secure proper water supply ... ..	56
14	Polluted wells closed ... ..	56
34	Water analyses ... ..	290

### Drainage and sewerage.

In addition to general maintenance and the normal extensions of the sewerage system the following works have been carried out during the year :—

- Reconstruction of S.W. sewer, Lockleaze Road—Keys Avenue.
- Construction of S.W. Sewer, Westbury Lane.
- Construction of Allison Road Culvert.
- Reconstruction of Pile Street sewer.
- Construction of F.W. Sewer, Southmead Road—Wellington Hill.
- Construction of S.W. Relief, Nelson Street.
- Reconstruction of S.W. Culverts at Channons Hill and from Guinea Lane to Fishponds Road (work commenced).

The chlorination of sewage in the main sewers was continued.

Schemes for the construction of the northern intercepting sewers and the eastern storm water intercepting sewer were submitted to the Ministry of Health and a Local Inquiry was held. The schemes were provisionally approved and work is proceeding with the preparation of plans and documents for the first contracts.

1937		1938
1 mile	Length of new sewers laid ...	3 miles
2,598,000	Street watering (gallons) ...	2,839,000

### Rivers and streams.

No special action in regard to river pollution was found necessary apart from that mentioned in the previous paragraph.

### Closet accommodation.

By steady and persistent action the number of closets without flushing appliances remaining in the city continue to be reduced annually. Flushing appliances were introduced in respect of 694 such closets during 1938.

### Refuse collection and disposal.

The refuse collection has been reorganised and a relay system instituted, which has resulted in a more economical system of working. The provision of dustbins is being urged forward as rapidly as possible and the disposal of house refuse is carried out 55·5 per cent. by incineration and 44·5 per cent. by controlled tipping.

1937		1938
119,321 tons	House and trade refuse collected	124,800 tons
17,876	Dustbins on hire ... ..	19,293

### Fouling of footpaths by dogs.

On 14th July, 1936 the Council made a byelaw for the prevention of the fouling of footpaths by dogs (vide Annual Report 1936, p. 59) but a provision was inserted that the bye-law would cease to be in force on 1st October 1938 unless re-enacted. Having regard to the desirability of abating the nuisance caused in the city by the fouling of footways in the street and public places by dogs, the Council in September 1938 made a new byelaw to give permanent effect to the byelaw made in July, 1936.

### Shops Acts.

1937	Statistics.	1938
3,276	Shops visited ... ..	4,122
2,995	Re-visits ... ..	2,856
1,901	Infringements detected ... ..	2,011
305	Verbal warnings ... ..	226
13	Warning letters ... ..	13
30	Prosecutions ... ..	87
30	Convictions ... ..	82*
8	Cases pending ... ..	—
	* 5 cases dismissed under Probation of Offenders Act.	

NUMBER OF SHOPS AND WAREHOUSES TO WHICH THE ACTS APPLY :—		
Retail shops ... ..	9,000–10,000	
Wholesale shops and warehouses ...	2,000– 3,000	

The sanitary inspectors are responsible for these Acts in so far as they relate to sanitation, heating, lighting, and ventilation, etc. (See table, page 74).

With regard to general administration, the shops acts inspector, Mr. C. L. Bryant, reports as follows :—

The Shops Acts now comprise :

1. Shops Act, 1912 ... regulates the closing of shops on the half-holiday, and provides a weekly half-holiday and meal intervals for assistants.
2. Shops Act, 1913 ... may be adopted instead of Section 1 of the Shops Act, 1912, by occupiers of premises where refreshments are sold for consumption on the premises. Regulates the hours of employment, meal intervals and holidays of assistants.



- |   |  |
|---|--|
| 3. Shops (Hours of Closing) Act, 1928                     | regulates the evening closing of shops.  |
| 4. Shops Act, 1934 ...                                    | regulates the hours of employment, meal intervals and rest periods of young persons under 18 years of age, and contains provisions regarding sanitary conveniences, ventilation, temperature, lighting, washing facilities, and facilities for taking meals. |
| 5. Shops Act, 1936 ...                                    | brings the business of a lending library where carried on for the purposes of gain within the scope of the Shops Acts.   |
| 6. Retail Meat Dealers' Shops (Sunday Closing) Act, 1936. | Prohibits, with certain exceptions, the carrying on of the business on Sunday of a retail dealer in butcher's meat.  |
| 7. Shops (Sunday Trading Restriction) Act, 1936. ...      | Prohibits with certain exceptions the opening of shops on Sunday ; regulates the hours of employment of assistants and provides for compensatory holiday in respect of Sunday employment.  |

The following trades have local evening closing orders fixing earlier closing times than the general closing hours laid down in the Shops (Hours of Closing) Act, 1928 :—

Butchers (except pork butchers).  
 Tailors, drapers, outfitters, etc.  
 Pharmacists, chemists, druggists, etc.  
 Jewellers, opticians, etc.  
 Boot and shoe retailers (Bedminster).  
 Hairdressers and barbers.  
 Wallpaper retailers.

#### *Routine inspection work.*

During the year 4,122 shops were visited and 2,856 revisits made. The large number of revisits is due to so many shopkeepers failing to exhibit the necessary notices or to keep records of the hours of employment of young persons. Of the 2,011 infringements recorded, 1,705 were failures to exhibit notices, or to keep records ; 288 related to the weekly half holiday, hours of employment of young persons, meal intervals, and compensatory holiday for Sunday work, mostly of a minor character which were remedied upon attention being drawn to them ; and 18 regarding seats for female assistants.

#### *Health and comfort provisions (Shops Act, 1912).*

Routine inspections effected minor improvements in 126 cases, i.e.

Sanitary arrangements	...	...	41
Ventilation	...	...	1
Heating	...	...	11
Lighting	...	...	26
Washing facilities	...	...	17
Facilities for taking meals	...	...	30

In addition, unsatisfactory conditions in 175 shops were reported to the chief sanitary inspector, and the summary table (page 74) indicates further improvements effected under the provisions of the Acts.

*Evening observation work.*

The inspectors at regular intervals kept observation to see that the Closing Act, and local evening closing orders were being obeyed. It is impossible for the present staff to cover the whole of the city and evening duty was mainly in those districts where evasion of the Acts is most likely to occur, and in cases where complaints were received.

In all, 392 hours were spent in evening observation duty. The police afforded useful assistance by reporting infringements coming to their notice.

*Sunday work.*

The Shops (Sunday Trading Restriction) Act, and the Retail Meat Dealers' Shops (Sunday Closing) Act have necessitated Sunday duty and the inspectors spent 243 hours in this work during the year.

The principal difficulties have been in connection with the 'mixed' shop-keeper who is permitted to sell certain goods on Sunday, but is prohibited from selling others. The conditions relating to the employment of assistants on Sunday and the compensatory holiday in lieu of such employment are being complied with fairly satisfactorily although some difficulty has been experienced in regard to the keeping of the necessary records of Sunday work and holiday.

Undoubtedly the Act is proving of considerable benefit to assistants who are obliged to work on Sundays.

*Exemption in respect of retail trade at exhibitions.*

Exemption under section 5 of the Shops (Hours of Closing) Act, 1928, was granted in respect of four exhibitions during the year. Such exemption permits retail trade to be carried on until 10 p.m. at the exhibition, subject to stall-holders complying with the regulations regarding the employment of assistants, working hours of young persons, etc.

*Legal proceedings authorised by Committee.*

Eighty-seven summonses under the various Shops Acts were issued during 1938 and the following fines were imposed :—

	£2	£1	15/-	12/6	10/-	7/6	5/-	Case dismissed
Failure to close on weekly half-holiday ...	—	1	1	—	1	—	1	—
Assistants' half-holiday or meal intervals ...	—	6	—	—	3	—	—	—
Hours of closing	3	2	—	1	27	3	3	4
Hours of work and record ...	—	2	—	—	8	—	3	1
Sunday closing ...	—	—	—	—	5	1	8	—
Sunday employment ...	—	—	—	—	1	—	2	—

### *Warnings.*

During the year 239 warnings (verbal and written) were given to comply with the Acts in future.

### **Smoke abatement.**

During the year 34 observations for smoke were taken and in nine instances the emission of smoke was in excess of that permitted by the byelaws made under section 2 of the Public Health (Smoke Abatement) Act, 1926. The firms concerned were immediately informed and advice given to the employees responsible. The nuisances arising from the smoke emissions referred to were abated without statutory action.

Two deposit gauges for measuring atmospheric pollution are in use in the city—one at the Clifton Zoological Gardens and one in the centre of the city. The samples are collected each month and the rainfall and deposits are measured and both subjected to analysis. The records of such measurements and atmospheric pollution will be found in the report by the public analyst.

### *Regional Advisory Council.*

A Regional Advisory Council has been established for Bristol and district. Local authorities within 25 miles of the city are represented on the Council and they comprise two county councils, two county boroughs, one borough council, one municipal corporation, nine urban district councils and six rural district councils. It is anticipated that further delegates will be appointed to represent other councils later.

A scheme for the establishment of classes for stokers has been investigated and it is expected to commence such classes in September 1939.

The Council consider that the matter of steam raising has an important bearing upon smoke nuisances. The prevention of nuisance is to some extent dependent upon the efficient operation of a properly constructed plant of adequate capacity. It is hoped to secure the co-operation of industry in the matter of smoke abatement, and with this in view a representative of the Federation of British Industries has been appointed upon the executive of the Council.

The duty of enforcing the law rests with the local authorities, but better results can be obtained by industrial co-operation.

### **Swimming baths and pools.**

The report for 1935 contained a scheme for the comprehensive survey of all the swimming baths and pools open to the public in Bristol, viz. : 12 swimming baths owned by the Corporation (including three open-air baths in parks) and three swimming pools privately owned.

### **Eradication of bed bugs.**

143 council houses, occupied by families whose furniture, etc., was subjected to cyanide fumigation before removal from houses

known to be vermin infested, were submitted to a rigorous examination as regards the presence of bed bugs, and in all cases the houses were found to be clean.

Other houses found to be bug-infested numbered 196, and appropriate methods were taken to have them disinfested by the owners of the properties concerned.

The methods employed for freeing infested houses were reported in 1936, as were the methods employed to ensure that vermin is not conveyed to new houses in the furniture, etc., from houses inspected for the purpose of clearance procedure.

### Cleansing and disinfection.

Accommodation is provided at the central disinfecting station, St. Philip's Marsh, for the bathing and disinfestation of verminous persons of both sexes, and their belongings, and during the year 121 men and eight women were dealt with. Children of school age receive attention at the school clinics.

The number of disinfections last year of premises and articles, and articles destroyed, following exposure to infection, are given below :

1937		1938
3,931	Premises disinfected ... ..	5,247
76,314	Articles „ ... ..	72,324
1,588	Articles destroyed ... ..	1,469

### Animal or insect pests.

#### *Fly infestations.*

During the year the attention of the department was called to infestation of hibernating flies in the roof spaces of dwelling houses. In six instances the infestations were found in the roof spaces of modern detached houses where there appeared to be nothing in the roof spaces that made them more attractive than similar neighbouring houses. These infestations were characterised by the presence of thousands of flies massed along the roof timbers in a semi-comatose condition. These flies were readily disturbed into intense activity by the application of an insecticide.

During February and March 1938 the roof spaces in two instances were sealed and the spaces fumigated by burning sulphur candles ; re-infestation occurred in September and November 1938. In addition to these cases, two other houses became infested and the co-operation of Dr. Kearns, research entomologist, University of Bristol, department of agriculture and horticulture, was obtained. Dr. Kearns collected specimens and applied an insecticide very finely atomised by means of an electric driven compressor. At the time of treatment some of the flies were outside the house resting on the sun warmed wall and roof therefore an "illuminated trap" was left in the roof spaces to catch the flies which would enter after the vapour had dispersed. In other cases a "flit-type" of sprayer fed by compressed air was used as a means of applying a pyrethrum spray with satisfactory results.



The flies were found to consist of the following species :—*Musca autumnalis* ; *Pollenia rudis* (cluster fly) ; *Musca domestica* (house fly) ; and occasional specimens of *Pyrellia sp.* and *Chloropisca circumdata*.

The reason for the recurrent annual selection by flies of certain houses as hibernating quarters is under investigation by Dr. Kearns. Fortunately the hibernating flies, with the exception of the house fly, are not known to be carriers of any disease and therefore their presence in a building although unpleasant need not be the cause of any anxiety.

#### *Rats and Mice (Destruction) Act, 1919.*

The services provided by the Council for the suppression of rats and mice were actively continued by the staff of four rat catchers employed in the city and port under the direction of the chief sanitary inspector. The figures relating to rats destroyed on ships, quays, wharves, refuse tips, in the vicinity of Avonmouth, Bristol, or Portishead docks will be found in the report of the port medical officer of health. The work carried out in the city during 1938 was as follows :—

	Baits		Traps set.	Rats destroyed by trapping and fumigation	Rats examined (other than those caught on ships and docks)
	Laid	Taken (approximate)			
Generally in the city	98,605	48,951	1,875	1,424	120
In public sewers* (undertaken by the city engineer's department) ...	32,447	23,463	—	—	—
Total ...	131,052	72,414	1,875	1,424	120

\* The public sewers were baited in March and November (Rat week).

During National Rat Week (7th to 12th November, 1938) the city engineer caused 15,882 baits to be laid in the city sewers (approximately 11,733 of which were taken) ; and in the city, 2,810 baits were laid (approximately 1,140 of which were taken) ; and six rat traps were set, two rats being caught. The attention of the public was drawn to the importance of rat week by articles in the local press and as a result specific enquiries were made and advice and assistance given by the department.

Leaflets giving information as to the best methods of destroying rats and mice, etc., are available to the general public.

#### **Schools.**

The medical officer of health is also the school medical officer and issues a separate report which deals with the health of the scholars in the elementary school departments, special schools, nursery schools, secondary schools and junior instruction centres.

Some 50,000 children are under medical supervision during their school career at inspection and treatment clinics.

### **Premises and occupations controlled by bye-laws or regulations.**

#### *Houses-let-in-lodgings.*

Bye-laws are in force in the city which incorporate the provisions of sections 6 and 7 of the Housing Act, 1936. At the end of 1938 263 properties had been registered under these revised byelaws.

#### *Common lodging houses.*

The Public Health Act, 1936, which came into operation on the 1st October, 1937, gives additional powers to local authorities in respect of the control of common lodging houses, and these were referred to last year.

In 1934 the Health Committee adopted a standard for common lodging houses as follows :

1. The building to conform to accepted standards for dwelling houses.
2. (a) Minimum of 40 sq. ft. of floor space for each lodger.  
 (b) Provision of an adequate day room.  
 (c) Sufficiency of water supply.  
 (d) Sufficiency of sanitary conveniences.  
 (e) Sufficiency of cooking facilities.  
 (f) Facilities for washing clothes.  
 (g) Means of escape in case of fire.

The following premises are registered as common lodging houses :

Church Army Hostel, Fairfax Street, with accommodation for 169 men.  
 Salvation Army Hostel, Milk Street, with accommodation for 154 men.  
 Premises at 20/22 Gloucester Lane, with accommodation for 80 men.

These premises are additional to the Municipal Lodging House which has accommodation for 122 men.

Fourteen other houses have been included within clearance orders made under the provisions of the Housing Act.

*The Municipal Lodging House* situated at Wade Street, St. Jude's (provided under the Housing of the Working Classes Act 1890), was erected in 1905 at an approximate cost of £10,000 including furnishing and consists of 122 cubicles for men, dining room, reading room, kitchen and laundry, drying room, bathrooms and cloakroom, superintendent's quarters. It continues to meet a definite need in the city. The total occupations for the year were 37,960 which were 3,321 more than 1937. The nightly average was 104. The charge for each lodger is 1/- per night, or a weekly ticket can be purchased for 6/- ; baths are free, but a charge of 2d. per parcel is made for storage, etc.

Having regard to the fact that all other functions of the Council under the Housing Acts were delegated to the Housing Committee and that the Great Ann Street redevelopment scheme undertaken by the Housing Committee involved the displacement of a considerable population from common lodging houses in that area, the

Health and Housing Committees, in March 1938, recommended that the interests of the Corporation would best be served by transferring the administration of the Municipal Lodging House to the Housing Committee. The Council accordingly approved the appropriation of the Municipal Lodging House for the purposes of the Housing Act, 1936 and the delegation to the Housing Committee of the powers of the Council with reference to the provision and management of common lodging houses.

*Tents, vans and sheds, etc.*

Periodical visits of inspection are made of all caravans, huts, tents, etc., which are used for human habitation ; 103 such visits were made during the year and in no instance was it found necessary to deal with infringements of the bye-laws governing such dwellings.

The powers under the Public Health Act 1936 for the regulation of the use of land for movable dwellings have been adopted by the Council and under these powers the Council refused applications for licenses in respect of 13 sites and 25 movable dwellings.

There are no licensed camping sites within the area.

*Offensive trades.*

Routine inspections numbering 367 were made of premises upon which offensive trades were carried on, and in eight instances it was found necessary to call attention to infringements of the bye-laws.

Nine applications were made to the Health Committee for consent to the establishment of the business of fish frying and consent was given in respect of two applications. Four annual consents were not renewed as the businesses had closed down voluntarily.

*Annual consents to establish or continue fish-frying.*

No. of applications.		Annual consents		Applica- tions withdrawn	No. of applica- tions in abeyance at end of year.	Total consents in force (December, 1938)
In abeyance from previous year.	Received during the year.	Granted	Not granted			
1	9	2	4	3	1	54

The Health Committee has also granted consents to the establishment of the businesses of tripe-boiling, gut scraping, bone boiler, tallow melter, fat melter or extractor, and manufacturer of poultry feed.

*Underground rooms.*

The Council has approved regulations for securing the proper ventilation and lighting of rooms to which section 12 (2) of the Housing Act, 1936, applies, and the protection thereof against

dampness, effluvia and exhalation. Details of these regulations were given in the report for 1937.

During 1938 closing orders were made upon 34 underground rooms which did not comply with the regulations.

#### *Places of entertainment.*

During the year the inspectors made 254 inspections of cinemas, theatres, and other places of entertainments; some of these visits being during a performance.

The methods of heating and ventilating the halls, and the provision of sanitary accommodation were found to be generally satisfactory. It was necessary, however, to serve notices or give verbal intimation with regard to insanitary water closet accommodation or cleansing in seven instances.

#### *Workshops, etc.*

Seventy-two notices relating to sanitary defects in factories, workshops, etc., were received during the year from H.M. inspector of factories.

#### *Offices.*

No. inspected	...	...	...	...	...	...	47
---------------	-----	-----	-----	-----	-----	-----	----

No. of visits	...	...	...	...	...	...	58
---------------	-----	-----	-----	-----	-----	-----	----

#### Work done—

Waterclosets—Flushing appliances introduced	...	3
---	-----	---

New pans fitted	...	...	4
-----------------	-----	-----	---

Additional W.C's provided	...	3
---------------------------	-----	---

Other repairs and cleansing	...	12
-----------------------------	-----	----

#### Washing facilities—

Lavatory basins provided	...	7
--------------------------	-----	---

Other repairs	...	...	6
---------------	-----	-----	---

Ventilation	...	...	...	5
-------------	-----	-----	-----	---

Improvement of lighting	...	...	...	6
-------------------------	-----	-----	-----	---

Notices served	...	10	complied with	...	8
----------------	-----	----	---------------	-----	---

#### *Homework—lists of outworkers received during 1938.*

	No. of outworkers	
	February	August
Boot and shoe making ... ..	—	12
Making of wearing apparel ... ..	45	61
Particulars received from other authorities	4	21
„ sent to „ „	14	3
Total ...	63	97

These premises were visited by the district sanitary inspectors during the course of their duties and in every instance the premises were found to be satisfactory.



*Outwork in unwholesome premises.*

There were no instances of sanitary defects on outworkers' premises requiring action under section 108 of the Factories and Workshop Act, 1901, or section 111 of the Factories Act, 1937.

*Underground bakehouses.*

The number of underground bakehouses in use at the passing of the Factory & Workshops Act, 1901, in the city was 54. The number remaining in use at the end of 1938 was nine, and these were found to be maintained in a satisfactory condition.

**Rag Flock Acts, 1911 and 1918.**

Rag flock is used in a few premises in the city. Four samples were taken during the year, analysed by the public analyst, and found to conform to the standard of cleanliness laid down in the regulations.

**Cemeteries.**

The cemeteries belonging to the Corporation are managed by the Municipal Cemeteries Committee. These are :—

Name of cemetery	Area of present cemetery.	Land available for extension.	No. of burials during year ended 31st March.	
			1938	1939
Greenbank ...	32	Nil	1,383	1,522
Canford ...	22	12	723	813
Avonview ...	12	11	643	629
Shirehampton	6	6	99	110
Brislington ...	2	Nil	46	53
Bedminster Down	82	Nil	—	—

In addition, two cemeteries are provided by private companies (53 acres) and two by ecclesiastical bodies (6 acres), the main private cemetery being that at Arnos Vale (45 acres) where there is also a crematorium which was opened for use on the 10th February, 1928, by the Bristol General Cemetery Co. Since that date, 3,120 cremations have taken place including 499 in 1938/9. The existing cemeteries with land held in reserve will, it is anticipated, provide adequately for the needs of the city for the next 50 years.

Sanitary Inspection	Visits	Notices served*		Notices complied with*
		Verbal	Informal written	
Dwelling houses ... ..	46,198	249	609	771
Houses let in lodgings ... ..	815	32	27	70
Common lodging houses ... ..	46	—	—	—
Tents, vans and sheds ... ..	103	—	—	—
Prep. or sale of food premises ... ..	814	11	7	11
Offensive trades : including fried fish shops, rag and bone dealers ... ..	367	6	2	6
Factories, workshops, and work- places ... ..	797	28	13	39
Entertainment places ... ..	254	6	1	2
Shops Act ... ..	1,256	5	35	56
All other matters ... ..	6,125	21	11	35

## FORMAL NOTICES AND ORDERS SERVED :

For abatement of nuisances, etc. ... ..	117 notices
For repair of private party drains serving 233 properties ... ..	30 drains
For paving private passages serving 252 properties ... ..	10 passages

1937		1938
	<b>DRAINAGE WORK :—</b>	
364	New drains laid ... ..	240
972	Drain tests made ... ..	1,125
714	Drains repaired ... ..	638
	<b>WATER CLOSETS :—</b>	
765	Flushing appliances introduced ... ..	694
855	New pans fitted ... ..	815
653	Other repairs and cleansing ... ..	110
19	Cesspools abolished ... ..	11
	<b>WORK ON DWELLING PLACES :—</b>	
1,164	Roofs repaired ... ..	943
12,987	Other new and repair work ... ..	16,954
451	Premises cleansed ... ..	349
606	Houses treated for dampness ... ..	544
1,172	Improvement of lighting and ventilation ... ..	521
603	New scullery sinks fixed ... ..	641
212	Washing conveniences installed in houses ... ..	159
353	Conveniences <i>re</i> storage, preparation or cooking of food installed ... ..	311
69	Bathroom and geyser ventilation ... ..	78
—	Cases of overcrowding abated ... ..	—
5	Underground rooms closed ... ..	23
990	Abatement of other nuisances ... ..	595
	<b>SHOPS ACT, 1934 :—</b>	
15	W.C.'s provided ... ..	9
34	Flushes provided ... ..	34
40	W.C. compartments cleansed ... ..	38
25	Washing facilities provided ... ..	17
1	Water supplies provided ... ..	—
17	Premises provided with adequate ventilation ... ..	36
3	Premises provided with adequate light ... ..	12
14	Sinks provided ... ..	16
4	Lavatory basins provided ... ..	17
82	Other works ... ..	90
	<b>ANIMALS IMPROPERLY KEPT :—</b>	
4	Manure receptacles provided ... ..	3
—	<b>AGED AND INFIRM PERSONS—removed to satisfactory premises</b>	1
	<b>SMOKE :—</b>	
19	Observations ... ..	34
6	Infringements of byelaws ... ..	9
	<b>PUBLIC HEALTH ACTS :—</b>	
4,210	Dwelling-houses inspected for housing defects under P.H. Acts ... ..	9,833
8,904	Inspections of such houses made ... ..	11,849

\* Excluding notices under Housing Acts.

**Factory and Workshop Act, 1901, and the Factories Act, 1937.**

1.—*Inspections.*

Premises.  (1)	Number of		
	Inspections (2)	Written notices (3)	Occupiers prosecuted (4)
Factories with mechanical power ...	194	10	—
Factories without mechanical power	401	5	—
† Other Premises under the Act (including works of building and engineering construction but not including outworkers' premises) ...	202	3	—
† Electrical Stations should be reckoned as factories      Total      ...	797	19	—

2.—*Defects found.*

Particulars.  (1)	Number of defects			Number of defects in respect of which prosecutions were instituted (5)
	Found (2)	Remedied (3)	Referred to H.M. Inspector (4)	
Want of cleanliness (S. 1) ... ..	63	63		
Overcrowding (S. 2) ... ..	—	—		
Unreasonable temperature (S. 3) ... ..	—	—		
Inadequate ventilation (S. 4) ... ..	8	8		
Ineffective drainage of floors (S. 6) ... ..	—	—		
Sanitary con- veniences (S.7) { insufficient ... ..	7	7		
{ unsuitable or defective ... ..	41	41		
{ not separate for sexes ... ..	4	4		
Other offences ... ..	46	46		
(Not including offences relating to Home Work or offences under the Sections mentioned in the Schedule to the Ministry of Health (Factories and Workshops Transfer of Powers) Order, 1921, and re-enacted in the Third Schedule to the Factories Act 1937)				
Total ... ..	169	169	—	—

## B.—HOUSING.

### Prevention and abatement of overcrowding.

There were 376 cases of overcrowding (including 254 in council houses) relieved during the year.

The 1st July, 1937 was given by the Minister of Health as the first appointed day for the city of Bristol. Notices relating to the provisions of the Act were given to the general public by means of posters on all public notice boards, and by advertisement in the local press. In addition, a leaflet setting out a summary of the provisions of the Act as to overcrowding was enclosed with the rate demand notes in October, 1937, as well as pamphlets being issued to tenants and owners upon application. The receipt of 3,000 applications

during the year was largely due to the action of the inspecting officers.

There are some 55,000 dwelling houses for which applications as to permitted numbers should be made and of this total over 15,500 were received and supplied to the end of December, 1938.

The 1st January, 1938, was the second appointed day on and after which new overcrowding became an offence.

The following table summarises the position as regards overcrowding at the end of the year.

(a)	(i)	Number of dwellings overcrowded at the end of the year ... ..	802
	(ii)	Number of families dwelling therein ... ..	829
	(iii)	Number of persons dwelling therein ... ..	6,045
(b)		Number of new cases of overcrowding reported during the year ... ..	344
(c)	(i)	Number of cases of overcrowding relieved during the year ... ..	1,376
	(ii)	Number of persons concerned in such cases ... ..	9,439
(d)		Particulars of any cases in which dwelling-houses have again become overcrowded after the local authority have taken steps for the abatement of overcrowding ... ..	13
(e)		Any other particulars with respect to overcrowding conditions upon which the medical officer of health may consider it desirable to report ... ..	nil

During the year, 46 cases of overcrowding (including 13 cases in (d) above) contrary to the provisions of the Housing Act 1936 were brought to notice; 31 cases were relieved by informal action and 15 remained outstanding at the end of the year.

### General housing.

#### *Five years' programme for slum clearance.*

In May, 1933, the Council provisionally approved a scheme for the demolition of 2,900 houses and the erection of 3,000 houses and flats.

The original estimate of the number of houses to be demolished (2,900) has been increased from time to time. At 31st December, 1938 there were 3,597 houses included in clearance orders made by the Council and 341 houses were subject to demolition orders made by the Housing Committee by authority of the Council.

At the end of the year the number of houses in confirmed clearance orders and subject to demolition orders was 3,671. Of these, 2,562 houses had been demolished, 543 houses were void, and 566 houses remained occupied; 11,725 persons were displaced from the houses void and demolished.

#### *Clearance orders.*

Under section 154 (2) of the Housing Act, 1936, official representations were made by the medical officer of health relating to 88 areas. The total number of houses in these areas was 457 with a population of 1,745 persons.

In addition, 24 demolition orders have been made on individual unfit houses during the year.

The following is a summary of the action taken under the Housing Act to 31st December, 1938.



*A.—Repair procedure—sections 9 and 10.*

## HOUSES REPAIRED.

Year	By owners		By Corporation in default of owners	Annual Totals
	(a) after informal action	(b) after formal action		
1930 (Aug. to Dec.)	75	51	9	135
1931	140	53	21	214
1932	108	48	2	158
1933	91	44	15	150
1934	227	208	16	451
1935	249	352	19	620
1936	226	423	37	686
1937	158	216	13	387
1938	148	175	15	338

*B.—Procedure by section 11.*

Year	Demolition Orders made	Undertaking to render fit accepted	Undertakings not to use for human habitation accepted	Total
1930	—	—	—	—
1931	109	6	7	122
1932	180	29	10	219
1933	100	29	2	131
1934	101	42	7	150
1935	75	46	25	146
1936	47	99	20	166
1937	32	126	14	172
1938	24	125	8	157

*C.—Area procedure—section 1.*

## HOUSES REPRESENTED IN CLEARANCE AREAS.

Year	No. of houses.		
1930	...	...	0
1931	...	...	70
1932	...	...	107
1933	...	...	357
1934	...	...	570
1935	...	...	713
1936	...	...	566
1937	...	...	1,005
1938	...	...	457

1937	PARTICULARS ASKED FOR IN MINISTRY OF HEALTH CIRCULAR 1561.				1938
	<i>Inspection of dwelling houses.</i>				
1,517	(1) (a) Total number of dwelling houses inspected for housing defects (under Housing Acts) ... ..				1,415
3,985	(b) Number of inspections made for the purpose ... ..				3,538
1,517	(2) (a) Number of dwelling houses (included under sub-head 1 above) which were inspected and recorded under the Housing Consolidated Regulations, 1925 and 1932				1,415
3,985	(b) Number of inspections made for the purpose ... ..				3,538
1,152	(3) Number of dwelling houses found to be in a state so dangerous or injurious to health as to be unfit for human habitation ... ..				747
365	(4) Number of dwelling houses (exclusive to those referred to under the preceding sub-head) found not to be in all respects reasonably fit for human habitation ... ..				668
	<i>Remedy of defects without service of formal notices.</i>				
158	Number of defective dwelling houses rendered fit in consequence of informal action by the local authority or their officers ... ..				148
	<i>Action under statutory powers.</i>				
	Proceedings under secs. 9, 10 and 16 <b>Housing Act, 1936.</b>				
365	Number of dwelling houses in respect of which notices were served requiring repairs ... ..				668
	Number of dwelling houses which were rendered fit after service of formal notices :—				
216	By owners ... ..				175
13	By local authority in default of owners ... ..				15
	Proceedings under <b>Public Health Acts.</b>				
361	Number of dwelling houses in respect of which notices were served requiring defects to be remedied, verbal notices excluded ... ..				609
	Number of dwelling houses in which defects were remedied after service of formal notices :—				
			Private party drains		
		Nuisances etc. No. of houses	No. of notices	Number of dwelling houses served	
85	By owners ... ..	117	—	—	117
130	By local authority in default of owners ... ..	—	30	233*	233
215		117	30	233*	350
	Proceedings under secs. 11 and 13 Housing Act, 1936.				
32	Number of dwelling houses in respect of which demolition orders were made ... ..				24
27	Number of dwelling houses demolished in pursuance of demolition orders ... ..				26
	Proceedings under sec. 12 Housing Act, 1936 :—				
6	Number of separate tenements or underground rooms in respect of which closing orders were made ... ..				26
—	Number of separate tenements or underground rooms in respect of which closing orders were determined, the tenement or room having been rendered fit ... ..				—
	Proceedings under secs. 11, 14 and 15, Housing Act, 1925 :—				
—	Number of dwelling houses in respect of which closing orders were determined, the dwelling houses having been rendered fit ... ..				—
4	Number of dwelling houses in respect of which demolition orders became operative ... ..				—
1	Number of dwelling houses demolished in pursuance of demolition orders ... ..				—

\* In some of these cases the local authority relaid the combined drain and private contractors relaid branch drains, etc.

## **V.—INSPECTION AND SUPERVISION OF FOOD.**

### **(a) Milk Supply.**

Milk consumption—milk examined for tubercle—pasteurisation tests—pasteurisation plants—registrations—legal proceedings—milk in schools—ice cream.

### **(b) Meat and other foods.**

Meat inspection — condemned food — legal proceedings — slaughterhouses—corporation abattoir—licences to slaughter —food preparation premises.

### **(c) Food and drugs, etc.**

Adulteration—Pharmacy and Poisons Act, 1933—Fertilisers and Feeding Stuffs Act, 1926—Destructive Insects and Pests Act, 1907—colorado beetle—noxious weeds—Merchandise Marks Act, 1926—Agricultural Produce (Grading and Marking) Act, 1928—butter factories—artificial cream—shellfish.

### **(d) Chemical and bacteriological examination of food.**

## INSPECTION AND SUPERVISION OF FOOD.

1937	SUMMARY OF WORK EFFECTED.	1938
	<i>Dairies, milkshops and cowsheds :</i>	
3,066	Visits paid ... ..	4,952
64	Notices served ... ..	134
18	Premises cleansed ... ..	44
6	Premises rebuilt, repaired or altered ... ..	24
6	Drains amended ... ..	19
1	Insanitary closets amended ... ..	—
2	Waterclosets fitted with pans and traps ... ..	6
2	Waterclosets fitted with flushing appliances ... ..	5
12	Other defects remedied ... ..	69
	<i>Samples taken :</i>	
307	For pasteurisation test ... ..	278
524	For tubercle examination ... ..	846
92	Repeats ... ..	168
57	Tuberculin tested (certified) ... ..	69
251	Tuberculin tested ... ..	284
123	Pasteurised ... ..	205
119	Accredited ... ..	190
179	Test samples at institutions ... ..	232
1,363	Under Food & Drugs Acts ... ..	1,596
	<i>Licences for graded milks :</i>	
—	To produce and bottle tuberculin tested ... ..	1
38	{ To bottle and sell tuberculin tested ... ..	10
	{ To sell tuberculin tested ... ..	37
2	To produce accredited ... ..	5
2	To bottle accredited ... ..	3
8	To sell accredited ... ..	8
9	To produce and sell pasteurised ... ..	10
20	To sell pasteurised ... ..	88
13	Supplementary licences to sell graded milks from premises outside the city ... ..	16

## (a) Milk supply.

During the year the food inspectors have had under supervision 1,529 registrations for the production and sale of milk, also 178 licences for the sale of graded milk ; 3,860 samples of milk were taken for chemical and bacteriological examination, including 748 samples of graded milks together with 232 samples taken at institutions ; 161 samples were found not complying with the official standard of the prescribed test of the Milk (Special Designations) Order, 1936, and in all cases appropriate action was taken to trace and rectify the defective supply.



*Milk consumption.*

1937.	Estimated amount consumed daily : gallons.	1938.
	<i>Pasteurised :</i>	
3,950	Loose ... ..	4,675
10,791	Bottled ... ..	12,745
1,268	School milk (bottled) ... ..	1,880
<hr/> 16,009		<hr/> 19,300
	<i>Tuberculin Tested :</i>	
33	Loose ... ..	360*
557	{ Bottled ... ..	420
	{ „ (Certified) } ... ..	140†
<hr/> 590		<hr/> 920
	(*Of this, 210 gallons were produced in Bristol)	
	(†Of this, 10 gallons were produced in Bristol)	
	<i>Accredited :</i>	
94	Loose (produced in Bristol) ...	360
203	Bottled ... ..	330
<hr/> 297		<hr/> 690
	<i>Raw milk :</i>	
3,148	Loose ... ..	5,106
1,376	Bottled ... ..	3,651
<hr/> 4,524		<hr/> 9,117
	<i>Homogenised :</i>	
1,500	Bottled ... ..	1,500
<hr/> 22,920	TOTAL ... ..	<hr/> 31,167

It will be seen from the preceding table that the milk consumption in the city showed a substantial rise over the previous year. It is of interest to note that the sale of pasteurised milk is steadily increasing.

*Milk examined for tubercle.*

There were 1,014 samples of milk taken for tubercle examination of which 64 were found to contain bacilli. The supplies of 32 producers were discovered during the year to be affected and 23 cows were traced from these farms and destroyed after being found to be affected with tuberculosis. In addition, 12 producers' farms where the milk of the herds was found to contain tubercle bacilli in 1937 were cleared, a further six cows affected with tuberculosis being destroyed. Six of the positive samples found during the year were repeat samples from these herds.

Further, 96 samples of milk were found to contain dirt, pus organisms, streptococci, etc. ; also 74 samples were found to contain *Brucella abortus*. These were reported to the authorities concerned.

Some indication of the time taken to clear a producer's farm where the milk of the herd has been found to contain tubercle

bacilli is given in the following summaries of the activities on each farm. It should be pointed out that before a farm is considered to be free from infection, further repeat samples are taken in the city by the milk inspector in every case. This procedure has been justified in more than one case where, the investigations of the herd having been reported completed, the fact that the milk of the herd has still been infected has been revealed.

1. Bulk sample of milk found to contain tubercle bacilli. The divisional veterinary inspector of the Ministry of Agriculture and Fisheries carried out an investigation of the herd and a cow showing tuberculous infection in her milk was traced and slaughtered under the requirements of the Tuberculosis Order 1938. This apparently cleared the herd. Repeat bulk samples to check whether the farm was clear were taken by the dairy inspector and one was found to be positive. The divisional inspector reinvestigated the herd and took two mixed samples from groups of cows and three samples from individual cows. All five were found to be negative. Further bulk samples have been taken and have all proved to be negative. Period of infection nine months.

2. Bulk sample of milk found to contain streptococcal chains microscopically. Biological examination did not reveal the presence of tubercle bacilli. The divisional inspector was informed and on his investigations of the herd a cow in milk was found on clinical examination to be tuberculous with chronic cough. The cow was destroyed under the Tuberculosis Order 1938. Period of infection four months.

3. Bulk sample found to contain "Numerous pus cells. Numerous streptococci—indicative of mastitis," microscopically. Biological examination did not reveal the presence of tubercle bacilli. The divisional inspector clinically examined the herd and took a sample from a single cow which proved positive. The cow was slaughtered under the requirements of the Tuberculosis Order 1938. Period of infection three months.

4. Three bulk samples of milk found to contain tubercle bacilli. The divisional inspector clinically inspected the milking herd of 35 cows in milk. One cow gave clinical symptoms of tuberculosis of the udder and was destroyed. Two samples from single cows and two mixed samples were taken. A sample from a single cow was found to be positive and the cow was destroyed. A mixed sample was found to be positive and the animals were re-examined. The other mixed sample and single sample were negative. Of the 15 cows in the positive mixed sample one was dry—samples from four single cows and mixed samples from ten cows were biologically negative. Period of infection six months.

5. Bulk sample of milk found to contain tubercle bacilli. The divisional inspector clinically examined the herd and took four samples from single cows and two mixed samples. A sample from a single cow was found to contain tubercle bacilli, and the cow was destroyed. The remaining five samples were negative. Period of infection four months.

6. Bulk sample of milk found to contain tubercle bacilli. The herd was inspected by the divisional inspector and samples were

taken from two individual cows and a bulk sample from the rest of the herd. A cow found to be giving tuberculous infection in her milk was slaughtered under the Tuberculosis Order. Period of infection six months.

7. Two bulk samples of milk found to contain tubercle bacilli. The herd was inspected by the divisional inspector and two group samples and one sample from a single cow were submitted for biological examination. The single cow sample was found to contain tubercle bacilli and the cow was slaughtered under the Tuberculosis Order. Period of infection five months.

8. Bulk sample of milk found to contain tubercle bacilli. The herd was clinically examined by the divisional inspector and samples were taken from one single cow and three groups of cows. The single cow was found to be giving milk containing tubercle bacilli and was slaughtered under the Tuberculosis Order. The period of infection lasted six months.

9. Two bulk samples of milk found to contain tubercle bacilli. The herd was examined by the divisional inspector and three samples were biologically examined. Bulk samples from 39 cows and a sample from a single cow were found to be negative but another cow showed the presence of tubercle bacilli microscopically and was slaughtered under the Tuberculosis Order. Period of infection five months.

10. Three bulk samples of milk found to contain tubercle bacilli. The herd was investigated by the divisional inspector and samples collected from a single cow and two groups of cows. The milk of the single cow showed the presence of tubercle microscopically and the cow was slaughtered under the Tuberculosis Order. The milk from the two groups of cows showed no tubercle bacilli biologically. Period of infection five months.

11. Bulk sample of milk found to contain tubercle bacilli. The divisional inspector investigated the herd and one cow was found to be giving tuberculous infection in her milk. This cow was slaughtered under the Tuberculosis Order. Period of infection six months.

12. Two bulk samples of milk found to contain tubercle bacilli. The herd was inspected by the divisional inspector. Samples taken from two single cows and a bulk sample from 13 cows were all found to be free from infection by guinea-pig inoculation. Three cows whose milk was included in the original positive sample were dry but showed no evidence of disease. A bulk sample taken from the whole herd when the cows were in milk again was found to contain no tubercle bacilli. In view of the fact that all these samples proved negative and no infected animal was traced we can but assume that some animals had been sold prior to the visit of the divisional inspector. Period of investigation ten months.

13. Bulk sample of milk found to contain tubercle bacilli. The herd was investigated and two cows found with tubercle bacilli in their milk were destroyed. Four repeat bulk samples of the milk of the herd taken in Bristol by the dairy inspector were found to be positive. The herd was re-investigated and divided into four groups and one single cow for the examination of samples. The



milk of one group of twelve cows showed the presence of tubercle bacilli. Of these twelve cows only five were in milk and the other seven were dry at the time. The milk of the five cows was found not to contain tubercle bacilli. The investigations were still proceeding at the end of the year.

14. Bulk sample of milk found to contain tubercle bacilli. The herd was inspected by the divisional inspector and samples collected from one single cow and three groups. In none of these samples were tubercle bacilli found. The divisional inspector reported that no cow had been found in this herd giving tuberculous milk. The probability is that a cow from this herd was sold between the time of taking our sample and the investigation of the herd. Period of investigations eight months.

15. Bulk sample of milk found to contain tubercle bacilli. The herd was inspected by the divisional inspector and three group samples were taken and found to be free from tubercle bacilli. No cow in the herd found to be giving tuberculous milk. As in the preceding case (No. 14) we can only assume that a cow had been sold before the investigations commenced. Period of investigations eight months.

16. Bulk sample of milk found to contain tubercle bacilli. The herd was investigated and one cow showing tubercle bacilli in its milk found and destroyed. Period of infection four months.

17. Two bulk samples found to contain tubercle bacilli. The herd was investigated and one cow found whose milk contained tubercle bacilli. This cow was destroyed. Period of infection lasted seven months.

18. Bulk sample found to contain tubercle bacilli. On investigation of the herd the milk of one cow was found to contain tubercle bacilli microscopically. The cow was destroyed. Bulk samples of milk from two groups of the cows in the remainder of the herd were found to be free from tubercle bacilli. Period of infection five months.

19. Two bulk samples found to contain tubercle bacilli. One cow in the herd was found to be giving tuberculous milk and was destroyed. The investigations were still proceeding at the end of the year.

20. Bulk sample of milk found to contain tubercle bacilli, and another taken at the same time revealed the presence of *Brucella abortus*. The divisional inspector inspected the herd and took samples from four single cows, one group of 17 cows, and another group of 13 cows. The investigations were still proceeding at the end of the year.

21. Four bulk samples of milk found to be infected with tubercle bacilli. The investigations were still proceeding at the end of the year.

22. Three bulk samples found to be tuberculous. The divisional inspector inspected the herd and took four samples from single cows and four samples from groups of cows. All these samples were found to contain no tubercle bacilli. The divisional inspector reported that since our positive samples were taken 13 cows had



gone dry and one was sold for slaughter. This cow was stated to have had some pathological condition of the udder. Repeat samples were taken in Bristol by the dairy inspector as a check and were found to be free from tubercle bacilli. The investigations in this case lasted for five months.

23. Two bulk samples found to contain tubercle bacilli. The divisional inspector examined the herd and took four samples—two from individual cows and two from groups of cows. One sample from an individual cow was found to be positive and the cow was slaughtered under the Tuberculosis Order. Repeat samples taken in Bristol by the dairy inspector were then found to be positive. The divisional inspector paid three more visits to the farm for the purpose of taking samples. The investigations were still proceeding at the end of the year.

24. Bulk sample of milk found to contain tubercle bacilli. The divisional inspector clinically examined the herd. One cow was found to have tuberculosis of the udder and was slaughtered. Three control samples of groups of the remainder of the herd were taken. One of these control samples was found to be positive and the seven cows concerned were resampled. A sample from a single cow and a sample from a group of cows were taken and both samples were found to contain tubercle bacilli. The single cow was destroyed and the cows in the group re-sampled but all the samples were found to be negative. Repeat bulk samples were taken in Bristol by the dairy inspector and one of these was found to contain tubercle bacilli. The investigations were still proceeding at the end of the year.

25. Three bulk samples of milk found to contain tubercle bacilli and one *Brucella abortus*. The divisional inspector clinically examined the herd and one cow found to be suffering from tuberculosis of the udder was slaughtered under the Tuberculosis Order 1938. Samples from the rest of the herd proved negative. There was a history of abortion, probably contagious, being present in the herd. The owner was advised as to the segregation, etc., of any animals which became affected. Period of infection six months.

26. Bulk sample of milk found to contain tubercle bacilli. The herd was investigated and samples taken from two groups of cows and one single cow. The sample from the single cow proved positive and the cow was slaughtered under the Tuberculosis Order 1938. The investigations were still proceeding at the end of the year.

27. Three bulk samples of milk found to contain tubercle bacilli. The divisional inspector investigated the herd and submitted four samples of milk for biological test. These were certified as non-tuberculous. Since the original positive samples were collected one cow was sold for slaughter. The investigations were still proceeding at the end of the year.

28. Bulk sample found to contain tubercle bacilli. The herd was investigated and a sample from a single cow proved microscopically positive. The cow was slaughtered under the Tuberculosis Order 1938. Ten other samples were taken from the herd and submitted

for biological test. The investigations had not been completed at the end of the year.

29, 30, 31, and 32. In the case of each of these farms a bulk sample of milk was found to be tuberculous. The county medical officer of health was informed and at the end of the year the investigations had only just commenced.

The samples of milk, including repeats, examined for tuberculosis were from :—

Producers.	No. of specimens.	Tubercle bacilli present in	Farms affected
City ... ..	133	8	5
Somerset ... ..	437	31	16
Gloucestershire	444	25	11

#### *Sampling under Order.*

There were 278 samples of milk taken and submitted to the department of preventive medicine for various test purposes in determining the extent of pasteurisation. Incomplete pasteurisation was revealed in 53 of these samples.

#### *Pasteurisation plants.*

During the year one additional pasteurising plant has been installed and three old plants have been replaced with more recent models of larger capacity. The pasteurisation plants used by the ten firms holding licences for the production of pasteurised milk are of the following size and make :—

Firm	Positive holder.	Capacity per hour gallons.
A	A.P.V.	3,000
B	Coopers Progressive	600
C	A.P.V.	1,000
D	Silkeborg	400
E	A.P.V.	200
F	Astra	400
G	Coopers Progressive	400
H	"	200
I	U.D. Batch "	75
J	Coopers Progressive	100

#### *Registrations.*

The number of registrations under the Milk & Dairies Order, 1926, at the end of 1938 were 64 cowkeepers, 374 dairymen and 926 milk-shops. In addition, 165 dairymen were retailing milk within the city from outside districts, making a total of 1,529 registrations, or 97 more than the previous year, largely due to the registration of a number of general shop retailers dealing in 'bottled' milk only.

During the past year the steady progress made in reconditioning farms has been maintained. The farmer is encouraged in this direction by the Milk (Special Designations) Order, 1936, the production and sale of graded milks being under the control of the Milk Marketing Board, who allow a higher price for such milks.

Nine farms within the city boundary had the Bristol Water Works supply laid on during 1938. It is anticipated that further progress will be made in this direction.

#### *Legal proceedings.*

One prosecution for using unregistered premises as a dairy resulted in a fine of £1.

#### *Milk in schools.*

The facilities for the supply of milk to schools at low cost had led to a considerable increase in consumption by school children, and the department is giving special attention to the standard of milk supplied and also to the sources of supply. Considerable attention has also been given to the manner of capping the bottles. The previous method of capping bottles with cardboard discs lent itself to pollution of the milk, and contamination from street dust when conveyed in open vehicles. This, however, has been remedied because school milk must now be sealed with overlapping metal caps and delivered to the schools in closed vehicles.

There were 299 samples taken during the year for examination as follows :—

Samples.	Complied.	Failed to comply.
79 as to quality ...	79	—
220 as to degree of pasteurisation	167	53

Fifty-three of the samples examined for degree of pasteurisation showed improper treatment. Arising out of these results the pasteurisation plants were dismantled, overhauled, and the recorders checked, following which there was a marked improvement in the milk afterwards supplied.

#### *Ice cream.*

In 1938, 392 premises remained on the register for the manufacture, sale, or storage of ice cream. The Bristol Corporation Act, 1926, provides that all premises for the manufacture or sale of ice cream shall be registered for such purposes while section 38 (1) of the Bristol Corporation Act, 1905, protects consumers by regulating the ice cream trade under penalty (vide report for 1934).

During the year 20 samples of ice cream were taken and submitted to the department of preventive medicine for test purposes.



## (b) Meat and other Foods.

1937	SUMMARY OF WORK EFFECTED.	1938
	<i>Slaughterhouses and meat, etc., premises.</i>	
7,186	Visits to slaughterhouses ... ..	5,937
1,282	„ wholesale and retail meat markets	1,655
754	„ meat and fish shops ... ..	609
25	„ fish curing premises ... ..	20
730	„ sausage, etc., making premises	631
45	„ cold stores ... ..	55
306	„ institutions ... ..	244
219	„ street traders ... ..	152
107	Slaughterhouses cleansed ... ..	117
1	Slaughterhouses rebuilt, repaired or altered	2
1	Sanitary defects, etc., remedied ... ..	2
	<i>Meat, etc., destroyed.</i>	
342	Entire carcasses ... ..	430
124	Beasts, cows, etc. ... ..	142
5	Calves ... ..	13
28	Sheep and lambs ... ..	51
185	Pigs ... ..	224
100. 3.0.22½	Total weight—tons, cwts., qrs., lbs. ...	152. 7.2. 1¾
90. 3.1.18½	Meat from slaughterhouses and shops	98.15.1.10½
14.0.0	Meat from cold stores ... ..	14.2.22½
9. 5.3.4	Meat at abattoir ... ..	12. 8.2.25½
24. 0.1.7½	Fish, poultry, rabbits, vegetables, etc. ...	40. 8.2.27¼

*Diseases of Animals Acts.*

The Agriculture Act, 1937, provided for the setting up of a Government veterinary service and for the transfer to whole-time veterinary inspectors appointed by the Minister of Agriculture of the duties carried out by the veterinary inspectors of local authorities under the Diseases of Animals Acts and Orders. The duties which remain to be performed by local authorities are mainly administrative and comprise the promulgation of orders made by the Ministry, the execution and enforcement of the orders of the Ministry with respect to the paving, cleansing and disinfection of livestock markets, the cleansing and disinfection of railway and road vehicles. The Council considered that the Act rendered unnecessary a separate Committee to exercise these functions and as from 1st April, 1938 the functions of the Diseases of Animals Acts Committee were delegated to the Health Committee.

*Meat inspection.*

The Corporation are empowered by the Bristol Corporation Act 1938, if and when there shall have been put into force a system of marking meat under the powers of part III of the Public Health (Meat) Regulations 1924, to make and enforce bye-laws for preventing meat or any part of the carcase of an animal brought into the city and intended for food from being offered for sale or sold or deposited for sale or for preparation for sale until after inspection by an officer of the Corporation and for requiring any such meat or carcase to be taken for inspection to the abattoir of the Corporation or to such place as may be specified in the bye-laws. In addition, the city inspectors may enter any slaughter house situated within a radius of twenty miles from the Council House for the purpose of



examining any carcase or part thereof intended for sale or consumption in the city.

By arrangement with the chief constable, police officers co-operate with health department officials in regard to certain sections of the meat regulations and other matters, and their help has proved most useful and effective.

All meat inspection is carried out by qualified meat and food inspectors.

There is practically no ante-mortem examination carried out in the private slaughterhouses in the city, but at the public abattoir where the meat inspector is responsible for the reception of animals opportunity is taken at the time for ante-mortem examination of all animals received. Notification is given to the owner of any animal which is in any way exhausted or distressed, etc., requiring the animal to be slaughtered immediately. There is also an isolation block, separate from the slaughterhall, into which any suspicious case of disease can be isolated for veterinary inspection.

All animals are subjected to post-mortem examination.

*Meat, etc., condemned.*

During the year the city food inspectors discovered or had surrendered to them over 193 tons of meat and other foodstuffs which were afterwards destroyed as diseased, unsound or unfit for human food. The meat included the entire carcasses of 430 animals.

*Carcases inspected and condemned.*

The following table shows the number of carcasses inspected and condemned :—

	Beasts	Calves	Sheep and lambs	Pigs
Number killed ... ..	6,839	3,294	30,729	40,623
Number inspected :—				
In city ... ..	4,895	1,572	18,097	36,413
At abattoir ... ..	1,944	1,722	12,632	4,210
Total ... ..	6,839	3,294	30,729	40,623*
<i>All diseases except tuberculosis :</i>				
Whole carcasses condemned ...	42	12	50	156
Carcasses of which some part or organ was condemned ...	724	37	1,089	2,021
Percentage of the number in- spected affected with disease other than tuberculosis ...	11·2	1·5	3·7	5·4
<i>Tuberculosis only :</i>				
Whole carcasses condemned ...	100	1	1	68
Carcasses of which some part or organ was condemned ...	1,031	1	8	3,700
Percentage of the number in- spected affected with tuber- culosis ... ..	16·5	·06	·03	9·3

\* In addition, 21,660 imported New Zealand pigs were inspected.

*Legal proceedings in respect of unsound meat, etc.*

No legal proceedings were taken during the year.

*Slaughterhouses.*

In February 1938 the Council approved a report from the Health Committee that notice had been given to the owners and occupiers of certain registered slaughterhouses, which from their situation or construction were injurious or dangerous to the public health, to cease from using the premises as slaughterhouses. The estimated amount of compensation payable by the Corporation was £7,150 in cash plus free killing facilities amounting in value to £2,750.

The number of slaughterhouses in use and occupation at the end of 1938 was as follows :—

	Registered	Permanently licensed	Annually licensed	Totals
Unfit	2	6	—	8
Fit	9	5	7	21
Totals	11	11	7	29

The Health Committee have also granted annual licences in regard to two knackers' yards.

Under the Public Health (Meat) Regulations, 1924, licensees are required to give the department notice of killing. Daily visits are made to all slaughterhouses and to the principal bacon factories in the city for the purpose of inspecting meat to be used for human consumption. In this way the city staff inspected during the year no fewer than 103,145 carcasses.

*Bristol Corporation abattoir.*

The public abattoir continues to prove itself a very definite acquisition to the city. Adequate facilities conforming to the most up-to-date practice for lairage, slaughtering, cooling, etc., are provided, as are also facilities for the proper inspection of carcasses.

The following table shows the animals killed at the abattoir month by month during the year :—

	Beasts	Calves	Sheep	Pigs	Total
January ...	163	98	830	376	1,467
February ...	164	47	707	363	1,281
March ...	184	213	876	468	1,741
April ...	138	139	805	405	1,487
May ...	159	166	1,083	362	1,770
June ...	104	140	990	252	1,486
July ...	108	91	1,192	223	1,614
August ...	154	187	1,505	243	2,089
September ...	148	162	1,194	209	1,713
October ...	206	201	1,264	369	2,040
November...	209	181	1,298	404	2,092
December...	207	97	888	536	1,728
Total. 1938	1,944	1,722	12,632	4,210	20,508
Total, 1937	1,736	909	9,607	4,504	16,756
Total, 1936	1,303	583	4,808	956	7,650

The number of animals killed during the year shows an increase over the previous year, the number being 20,508 as against 16,756 for the year 1937, an increase of 3,752 animals.

The accommodation and equipment available is sufficient to deal efficiently with a considerable advance on these figures.

Pathological work for the abattoir is carried out by the department of preventive medicine at the University of Bristol, to which department specimens are submitted for examination and report.

#### *Licences to slaughter.*

In 1938, 167 licences to slaughter were renewed and ten new licences issued in accordance with the provisions of the Slaughter of Animals Act, 1933.

#### *Preparation of food, etc.*

All premises utilised for the preparation of food, etc., for human consumption are periodically inspected by the district sanitary inspectors. These places include bakehouses, cooked meat shops, fried fish shops, ice cream manufacturers, restaurants, street traders, etc.; 814 inspections were made during the year, and eleven notices were served requiring the remedying of defects.

The business of fish frying has been declared an offensive trade and since 1926 the Health Committee has granted annual consents to the establishment of approved new businesses. There are 172 fried fish shops in the city, 54 of which are subject to annual consents.

### (c) Food and Drugs, etc.

During the year, 2,139 samples of food and drugs were taken for analysis under the provisions of the Food and Drugs (Adulteration) Act, 1928, and allied acts and regulations, the proportion of samples examined being 5·15 per 1,000 population. Details of the samples submitted will be found in the report of the public analyst, showing that 122 or 5·7 per cent. were condemned as not genuine.

Legal proceedings were taken in 26 cases and penalties imposed as follows :—

£10	...	...	...	one case
£5	...	...	...	five cases
£2	...	...	...	one case
£1	...	...	...	five cases
10/-	...	...	...	three cases
Pay 24/- costs	...	...	...	one case
Pay 20/- costs	...	...	...	one case
Pay 5/- costs	...	...	...	one case
Pay 4/- costs	...	...	...	two cases

Four cases dismissed under first offenders act.

One case dismissed, third part of sample broken.

One case dismissed under warranty.

In 18 cases cautions were given by the Town Clerk.

19 cases were found to be as the cow gave it, and in nine cases the whole consignment bulked proved genuine.

One case of selling milk on unregistered premises, fined 20/-.

*Pharmacy and Poisons Act, 1933.*

Since the Act came into force, 358 licences have been granted by the Local Authority for the sale of Part II poisons, of which 319 were in force at the end of the year. During the year, 28 new applications for registration were received, and 298 applications were received and granted for the renewal of existing licences.

Inspections have been made of the registered premises, and many infringements revealed. Cautions were given in a number of instances and proceedings were instituted in 33 cases and the following penalties were imposed :—

2 cases fined ...	£2	10	0
6 cases „ ...	£1	0	0
12 cases „ ...		10	0
10 cases „ ...		5	0
1 case fined ...		1	0
2 cases pay ...		4	0 costs

Twenty-six samples were submitted to the public analyst for confirmation as to the presence of poisons, and where stated to be present, to ascertain if the amount of poison declared, conformed with the amount permitted.

Many wholesale warehouses have been advised as to the requirements of the Act, vans inspected, and one street hawker was brought before the court.

*Fertilisers and Feeding Stuffs Act, 1926.*

Twenty-seven samples were taken and submitted to the agricultural analyst : twenty-three of the samples were reported genuine. Four samples that did not conform to the requirements of the Act, were not considered to be to the prejudice of the purchaser. A sample of barley meal contained 14.1 per cent moisture. This the agricultural analyst reported as rather high, and as there is no standard fixed for moisture in barley meal, the facts were placed before the Ministry of Agriculture and Fisheries. The matter was considered by the Advisory Committee of the Ministry and an inquiry is in progress as to how the amount of moisture in barley meal could be controlled.

*Destructive Insects and Pests Act, 1907.*

Inspections were made by inspectors of the Ministry and the local authority but no trace of wart disease of potatoes was discovered.

*Colorado beetle.*

The precautions to keep this pest in check were in no way relaxed. Illustrated posters were kept exhibited giving details and instructions and inspection made of growing crops. While a few specimens have been found, so far the beetle has no hold in this country.

*Noxious weeds.*

Twenty-five complaints as to the overgrown condition of gardens and void plots of land were dealt with. In twenty-two cases requests to improve conditions were complied with, in two cases no action was justified, and in one case the owner was abroad.



*Merchandise Marks Act, 1926.*

The marking of imported eggs has improved. The marking of dried fruits has become slack, calling for many cautions, and also the marking of tomatoes and apples has shewn considerable slackness.

*Agricultural Produce (Grading and Marking) Act, 1928.*

The requirements of the Act have again been well observed. Both the cold stores in the city and various vendors premises have been inspected and all cold stored and preserved eggs were found correctly stamped.

*Butter factories.*

Fifteen premises are registered with the local authority at which blending and reworking of butter is permitted. All these premises have been inspected and samples taken at each. A consignment of butter at a factory was found on examination to be contaminated by flood water, and was only permitted to be used for pastry, etc. after having been clarified. Another sample contained 17·1 per cent. of moisture, proceedings were instituted, and the firm ordered to pay 20/- costs. Another sample of butter examined contained 16·1 per cent. moisture and was reported as suspicious.

*Artificial cream.*

There appears to be no expansion in the demand for artificial cream, and no addition has been made to the four firms previously registered.

*Shell fish (Molluscan).*

There are no shell fish beds or layings within the jurisdiction of the Corporation of Bristol. The supply of shell fish marketed in Bristol is obtained from the following sources :—

Cockles	from	St. Clair, South Wales, and King's Lynn.
Escallops	„	Brixham, South Devon.
Mussells	„	Appledore, North Devon ; and St. Clair, South Wales.
Oysters	„	Whitstable, Pyefleet and Colemouth via London ; Portuguese and American via Liverpool.
Winkles	„	Appledore, North Devon.
Whelks	„	King's Lynn.

Samples of shell-fish were submitted to the department of preventive medicine for bacteriological examination.

**(d) Chemical and bacteriological examination of food.**

The city chemical and bacteriological laboratories for the examination of food are situated at the University of Bristol department of preventive medicine. A report containing full particulars of the nature and number of samples submitted for analysis during the year will be found in the appendix.

## **VI.—PREVALENCE OF AND CONTROL OVER INFECTIOUS AND OTHER DISEASES.**

Notifiable infectious diseases — smallpox — vaccination — diphtheria — diphtheria immunisation — diphtheria antitoxin — erysipelas — scarlet fever — enteric fever — dysentery — infectious diseases of the nervous system — malaria — non-notifiable infectious diseases—home nurses—Tuberculosis—cases—deaths—comparative statistics—Public Health (prevention of tuberculosis) Regulations, 1925—Public Health Act, 1936, section 172—boarded-out cases—after-care—chest clinic—venereal diseases—cancer—influenza and respiratory diseases—heart disease—prevention of blindness.

# Notifiable Diseases during 1938 (including Port cases).

NOTIFIABLE DISEASES.	NOTIFICATIONS.							REMOVED TO HOSPITAL		DEATHS.							Notified in each quarter.				Attack rate per 1,000.			
	At all ages.	At ages—years :						No.	%	All ages	At ages—years						1st	2nd	3rd	4th				
		Under 1	1 to 5	5 to 15	15 to 25	25 to 45	45 to 65				65 and upwards	Under 1	1 to 2	2 to 5	5 to 15	15 to 25						25 to 45	45 to 65	65 and upwards
Diphtheria ..	647	7	143	380	67	47	3	630	97	22	2	..	4	15	1	..	..	..	144	82	110	311	156	0.76
Erysipelas ..	173	3	4	17	10	47	22	73	42	4	1	..	..	..	..	..	1	2	74	33	29	37	0.42	0.42
Scarlet fever ..	1,033	3	243	666	72	44	5	779	75	1	..	..	1	..	..	..	..	..	229	212	197	395	2.49	1.59
Enteric fever ..	3	..	..	..	2	1	..	3	100	..	..	..	..	..	..	..	..	..	..	2	1	..	0.007	0.03
Cerebro-spinal meningitis ..	7	2	..	3	1	1	..	7	100	4	2	..	..	..	1	1	..	..	3	..	1	3	0.016	0.02
Poliomyelitis ..	24	1	13	5	4	1	..	20	83	2	..	1	..	..	1	..	..	..	2	..	2	20	0.06	0.03
Pneumonia ..	398	39	51	42	34	83	81	133	33	229	38	10	13	5	8	20	49	86	150	133	40	75	0.96	1.06
Malaria ..	4	..	..	..	..	4	..	2	50	..	..	..	..	..	..	..	..	..	1	1	..	2	0.009	0.005
Dysentery ..	224	6	42	54	29	46	27	40	18	1	..	..	..	..	..	..	..	1	169	26	21	7	0.54	0.09
Encephalitis lethargica ..	4	..	..	4	..	..	..	4	100	2	..	..	..	..	1	1	..	..	..	1	..	3	0.009	0.01
Polio-encephalitis ..	..	..	..	..	..	..	..	..	..	2	..	..	1	..	1	..	..	..	..	..	..	..	..	0.009
Typhus fever ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	0.002
Puerperal pyrexia..	83	..	..	..	24	59	..	2	2	..	..	..	..	..	..	..	..	..	29	11	25	18	13.19	7.2 { per 1,000 total births
Ophthalmia neonatorum	38	38	..	..	..	..	..	3	8	..	..	..	..	..	..	..	..	..	9	6	12	11	6.3	4.9 { per 1,000 live births

No cases or deaths were reported during the year of smallpox, cholera, plague, relapsing fever or continued fever.

## VI.—PREVALENCE AND CONTROL OF DISEASE.

## Infectious disease.

Zymotic diseases.	1st quarter.	2nd quarter.	3rd quarter.	4th quarter.	1938	1937	1936
Deaths	32	18	8	4	62	41	103
Rate per 1,000 population					0.15	0.09	0.25

The number of deaths in Bristol in 1938 from enteric fever, small-pox, measles, scarlet fever, whooping cough, diphtheria, and diarrhoea and enteritis under two years, which are known as zymotic diseases, was 62 ; 22 of these deaths were due to diphtheria and 25 to measles. This gives a death rate for the group of 0.15 per 1,000 compared with 0.09 in 1937.

Many other infectious diseases have, however, to be taken into consideration in assessing the health circumstances of the city. Altogether the cases notified totalled 3,222 (excluding 11 port cases) 866 more than in 1937, giving an attack rate of 7.75 per 1,000, or 2.08 more. This increase in the general attack rate was primarily due to a greater number of cases of diphtheria (332 more), scarlet fever (374 more), dysentery (184 more), poliomyelitis (12 more) and puerperal pyrexia (38 more). The increases were offset to a lesser degree by decreases in enteric fever (11 less), pneumonia (49 less) and pulmonary tuberculosis (11 less).

Other important facts to be noted with regard to the prevalence of infectious diseases in 1938, are :—

- (1) Fifty eight per cent. of the infectious cases were of children below the age of 15 years, and 39 per cent. of school age (5—15 years). The corresponding figures last year were 50 per cent. and 32 per cent.
- (2) Sixty-four per cent. of all notifiable infections excluding tuberculosis were isolated in hospital, six per cent. less than last year. This figure relates only to cases where diagnosis was confirmed in hospital.

In the reports of the medical superintendents of the city hospitals, sanatoria, etc., will be found further observations on the type of disease nursed. Puerperal pyrexia and ophthalmia neonatorum are specially dealt with in the report on maternity and child welfare.

**Smallpox.**

No case of smallpox was reported in Bristol during 1938, and the city has remained free of this disease since two cases of the mild type occurred in 1929. The medical officers of the department are available for consultation in doubtful cases, and co-operation in this way is welcomed.

*Vaccination.*

There has been no change in the local arrangements described in my report for 1930 for dealing with vaccination. The city is divided into eight vaccination districts, a public vaccinator being appointed for each district ; separate public vaccinators are also appointed for Southmead Hospital, and Eastville and Stapleton Institutions.



The following table summarises the work of the public vaccinators and the vaccination officers for the last five years :—

Year	Births registered	Certificates of :					Persons successfully vaccinated at the cost of the rates (year ended 30th Sept.)			
		Primary vaccination (all ages)	Re-vaccinations	Statutory declaration	Postponement	Insusceptibility	Successful primary vaccinations			Re-vaccinations
							Under 1 year	Over 1 year	Total	
1938	6,693	2,582	174	3,391	105	15	628	1,426	2,054	177
1937	6,571	2,460	64	3,416	96	14	640	1,373	2,013	144
1936	6,350	2,682	23	3,240	86	19	932	1,536	2,468	28
1935	6,045	2,705	36	3,085	92	22	1,044	1,495	2,539	51
1934	6,000	2,930	93	3,047	154	15	845	1,554	2,399	100

No contacts of cases of smallpox were vaccinated or re-vaccinated under the Public Health (Smallpox) Regulations, 1917.

Exemptions on statutory declarations in 1938 (3,391) were equivalent to 50·6 per cent. of the births registered.

#### Diphtheria (including Membranous Croup).

Year	Cases	Attack rate		Deaths	Case mortality per cent.	Death rate	
		Bristol	England and Wales			Bristol	England and Wales
Average 1929-33	923	2·32	1·39	36	3·9	0·09	0·07
1934	751	1·83	1·70	16	2·1	0·04	0·10
1935	625	1·51	1·60	12	1·9	0·03	0·08
1936	441	1·07	1·39	15	3·4	0·04	0·07
1937	315	0·76	1·49	8	2·5	0·02	0·07
1938	647	1·56	1·58	22	3·4	0·05	0·07

The number of diphtheria cases reported increased by 332 compared with last year, this being the highest number since 1934. The case mortality rose from 2·5 to 3·4, the average mortality percentage for the preceding five years being 2·7.

Fifty-eight per cent. of the total cases notified occurred amongst children of school age and 23 per cent. amongst children under five year of age ; 97 per cent. of the cases were removed to hospital ; 20 of the 22 fatal cases were children under ten years of age and six of these were under five years of age.

#### *Diphtheria immunisation.*

1937		Education department	M. & C.W. department	1938
2,378	No. received full course ...	3,430	319	3,749
2,317	Observed after Schick testing	1,867	118	1,985
2,272 (98%)	Found negative after observation	1,767	112	1,879 (94%)

The most effective weapon in combating the disease is the protection afforded by the safe and efficient method of immunisation in early childhood by means of toxoid.

As stated in my report for 1930, the Health Committee have adopted this method, and the course is available free of charge for all children of school age and under. By arrangement with the Education Committee inoculations are given by the school medical staff at the schools and a weekly clinic is held at the Central Health Clinic every Saturday. Sessions are also held at the maternity and child welfare clinics in the outlying districts when the need arises, the Health Committee being responsible for all expense. The immunising materials used are: (a) for patients under eight years of age, F.T. (Toxoid); (b) for patients over eight years, T.A.F. (Toxoid Antitoxin Floccules). The number dealt with during the year is shewn above.

Twenty-five children were notified as cases of diphtheria subsequent to receiving immunising injections, but no significance must be attached to this figure, as several had not had a full course, and others who had a full course had not been subsequently tested.

Seventeen cases of diphtheria occurred in children who had been tested and declared negative subsequent to immunisation.

The cases were as follows:—

Patient	Age		Immunising injections (dates)			Tested and found negative	Diphtheria onset 1938	Character of disease
	M.	F.	1st	2nd	3rd			
T.M.	11	..	18/10/30	8/11/30	6/12/30	6/ 5/31	2/ 1/38	Slight
J.P.	7	..	3/ 3/36	20/ 3/36	23/ 4/36	21/ 9/36	5/ 1/38	Nasal carrier
B.F.	..	12	15/ 2/30	8/ 3/30	29/ 3/30	8/10/30	27/ 1/38	Non-clinical
R.S.	..	11	1/ 5/36	22/ 5/36	26/ 6/36	22/ 9/36	14/ 5/38	Slight
M.B.	..	10	21/ 9/34	12/18/34	14/12/34	5/ 3/35	21/ 5/38	Very slight
B.T.	..	5	11/ 6/36	30/ 6/36	17/ 7/36	9/10/36	10/ 9/38	Severe.
E.M.	..	11	1/ 5/36	22/ 5/36	26/ 6/36	22/ 9/36	1/10/38	Nasal carrier
A.B.	9	..	28/ 5/35	3/ 9/35	24/ 9/35	16/ 1/36	27/10/38	Moderately severe
C.B.	8	..	19/ 6/37	23/ 6/37	25/ 8/37	12/ 5/38	?	Carrier
G.C.	11	..	29/ 5/34	7/ 9/34	30/10/34	18/ 1/35	14/11/38	Moderate
C.G.	9	..	31/ 5/35	21/ 6/35	27/ 8/35	5/12/35	20/11/38	Very severe
W.F.	7	..	27/ 2/36	10/ 5/36	9/ 7/37	11/10/37	23/11/38	Severe
D.M.	..	17	24/ 2/30	17/ 3/30	7/ 4/30	—/ 7/30	9/12/38	Mild
R.N.	11	..	8/ 9/33	22/ 9/33	21/11/33	20/ 2/34	—/12/38	Nasal carrier
M.H.	6	..	25/ 9/37	9/10/37	30/10/37	5/ 3/38	?	Carrier
J.Y.	10	..	21/ 9/34	2/11/34	14/12/34	5/ 3/35	23/12/38	Moderately severe
J.B.	2½	..	28/ 5/38	11/ 6/38	25/ 6/38	1/10/38	22/12/38	Carrier

Since October, 1929, to the end of 1938, 16,912 children aged 1—15 have been immunised and tested negative, and of these sixteen cases were notified as diphtheria in 1938. This is equivalent to an incidence rate of 1·005 per thousand, compared with 507 cases of diphtheria amongst approximately 68,874 children in the same age group who had not been immunised, an incidence rate of 7·3 per thousand.

#### *Supply of diphtheria antitoxin.*

The arrangements made for the supply of antitoxin to medical practitioners were described in last year's report. In case of special emergency, antitoxin can be obtained at the Central Health Clinic, Tower Hill, at any hour of the day or night, including Sundays.

**Erysipelas.**

Year	Cases	Attack rate	Deaths	Death rate
1934	165	0·40	10	0·024
1935	154	0·37	4	0·009
1936	193	0·46	7	0·016
1937	176	0·42	5	0·012
1938	173	0·42	4	0·009

There were 173 cases of erysipelas reported during the year, of which 80 per cent. were adults over twenty-five years of age; 48 per cent. of the cases were removed to hospital for treatment. Four deaths occurred, one aged under one year, and three aged 45 years upwards, giving a case mortality of 2·3 per cent. compared with 2·8 per cent. in 1937 and 3·6 per cent. in 1936.

The attack rate for the year was 0·02 per 1,000 population above that for England and Wales.

**Scarlet fever.**

Year	Cases	Attack rate		Deaths	Case mortality per cent.	Death rate	
		Bristol	England & Wales			Bristol	England & Wales
Av. 1929-33	756	1·89	2·64	4	0·47	0·009	0·02
1934	1,044	2·54	3·76	1	0·09	0·002	0·02
1935	1,033	2·50	2·96	9	0·8	0·02	0·01
1936	829	2·00	2·53	2	0·2	0·01	0·01
1937	659	1·59	2·33	4	0·61	0·009	0·01
1938	1,033	2·49	2·41	1	0·09	0·002	0·01

During the year under review, 1,033 cases of scarlet fever were reported, 374 more than in 1937; 75 per cent. of these received hospital treatment. One death occurred, compared with four in 1937. The case mortality was 0·09 per cent., compared with 0·61 in the previous year.

**Enteric fever.**

Year	Cases	Attack rate		Deaths	Death rate.	
		Bristol	England and Wales		Bristol	England and Wales
1934	4	0·01	0·03	—	—	0·00
1935	14	0·03	0·04	—	—	0·00
1936	23	0·05	0·06	—	—	0·01
1937	14	0·03	0·05	1	0·002	0·00
1938	3	0·007	0·03	—	—	0·00

Three cases of enteric fever were notified in the city, including one paratyphoid B. This is eleven less than last year. The cases were confirmed bacteriologically, and in one case the disease was undoubtedly contracted in another town. There were no deaths. All the cases were removed to hospital.

**Dysentery.**

Year	Cases	Attack rate	Deaths	Death rate
1934	8	0.02	—	—
1935	12	0.02	1	0.002
1936	48	0.11	—	—
1937	38	0.09	—	—
1938	224	0.54	1	0.002

There were 224 notifications of this disease during the year, 182 more than last year; 210 originated in private homes, and 12 in four different institutions, while two were port cases. Six cases were of the Flexner type, and 177 of the Sonne type, the remainder being unclassified; 40 cases were treated in hospital, and 184 were nursed at home.

There was one death.

**Infectious diseases of the nervous system.**

Year	Cerebro-spinal fever.				Poliomyelitis.			
	Cases		Deaths		Cases		Deaths	
	No.	Rate.	No.	Rate.	No.	Rate.	No.	Rate.
1934	17	0.04	14	0.03	8	0.02	—	—
1935	12	0.02	7	0.01	3	0.007	1	0.002
1936	5	0.01	1	0.002	2	0.004	1	0.002
1937	9	0.02	7	0.02	12	0.03	1	0.002
1938	7	0.02	4	0.009	24	0.06	2	0.004

Year.	Encephalitis Lethargica.				Polio-encephalitis.			
	Cases.		Deaths.		Cases.		Deaths.	
	No.	Rate.	No.	Rate.	No.	Rate.	No.	Rate.
1934	11	0.026	12	0.029	—	—	—	—
1935	8	0.019	3	0.007	—	—	—	—
1936	9	0.02	7	0.017	—	—	—	—
1937	5	0.01	5	0.01	4	0.01	2	0.005
1938	4	0.009	2	0.004	—	—	2	0.004

During the year seven cases of cerebro-spinal fever were notified, a decrease of two on the previous year. There were four deaths compared with seven in 1937. All the cases were removed to hospital. Three occurred in the first quarter, one in the third quarter, and three in the last quarter of the year. The cases were all notified from private homes, and there was no instance of more than one case occurring at each home. Two cases were children under one year, three between five and ten years, and the others were aged 16 and 39.

Twenty four cases of anterior poliomyelitis were notified, compared with twelve in 1937; 19 were under 15 years of age (14 under five years). One case was notified from a babies' home, where no further cases resulted, and the remainder from private homes. Twenty cases were removed to hospital. There were two deaths.



Four cases of encephalitis lethargica were reported compared with five cases in 1937. All were acute cases occurring in children under 15 years of age, and all were treated in hospital.

No case of polio-encephalitis was notified during 1938, but two deaths were recorded.

### Malaria.

Two cases of this disease were notified and both were treated at home.

### Non-notifiable infectious diseases.

1936	1937		QUARTERS				1938
			1st	2nd	3rd	4th	
2,784	723	CASES—					
23	23	Measles	3,564	332	55	12	3,963
1,989	549	German measles	24	14	18	17	73
1,037	3,163	Whooping cough	149	63	83	274	569
1,059	1,792	Mumps ..	40	20	6	31	97
		Chicken-pox ..	675	435	259	262	1,631
6,892	6,250	Total ..	4,452	864	421	596	6,333
		DEATHS—					
38	2	Measles .. ..	22	3	—	—	25
—	—	German measles	—	—	—	—	—
18	15	Whooping cough..	—	2	—	—	2
—	—	Mumps .. ..	—	—	—	—	—
—	—	Chicken-pox ..	—	—	—	—	—
56	17	Total ..	22	5	—	—	27

The only figures available relative to the number of cases of non-notifiable infectious disease are those obtained from school cards, and from returns of cases discovered in the homes by nurses and health visitors.

Measles shows a greatly increased number in comparison with 1937, but in the case of mumps a substantial decrease is recorded.

### Measles.

	Death rate per 1,000 population.				
	1934	1935	1936	1937	1938
Bristol .. ..	0·029	0·03	0·10	0·004	0·06
England and Wales ..	0·09	0·03	0·07	0·02	0·04

Altogether 3,963 cases were reported to the department during the year—mostly in the first quarter—as compared with 723 last year, and 2,784 in 1936. The number of deaths was 25.

Broncho-pneumonia was as usual the commonest complication associated with measles; 182 cases of measles, and 14 of measles and broncho pneumonia were admitted to Ham Green Hospital from institutions and from homes where the facilities for nursing were inadequate. Eighteen cases proved fatal.

The death rate of 0·06 per 1,000 shows an increase of 0·056 compared with last year, and is 0·02 above the national rate.

*German measles.*

For the third year in succession the case incidence in this disease was low, only 73 cases being reported. There were no deaths. Two cases were admitted to hospital.

*Whooping cough.*

	Death rate per 1,000 population.				
	1934	1935	1936	1937	1938
Bristol .. .. .	0·04	0·00	0·04	0·04	0·004
England and Wales ..	0·05	0·04	0·05	0·04	0·03

There was a slight increase in the number of cases of whooping cough reported in the city, 569 coming to our knowledge during the year, as compared with 549 last year. There were two deaths, against 15 in 1937. Thirty three cases of whooping cough, and six cases of whooping cough and broncho-pneumonia were admitted to hospital. Of these three died.

*Mumps.*

Only 97 cases were reported, against 3,163 in 1937. Four cases were admitted to hospital. There were no deaths.

*Chicken pox.*

The number of cases reported was 1,631 (against 1,792 last year) 1,100 occurring in the first half of the year. Twenty seven cases were admitted to hospital.

*Home nurses.*

The work of the three fever trained nurses employed to visit homes in connection with notifiable and non-notifiable diseases was fully described last year. The work they accomplished in 1938 is available from the table which follows :—

1937	Disease	1938
658	Scarlet fever ... ..	1,023
350	Diphtheria ... ..	713
15	Enteric fever ... ..	—
9	Encephalitis lethargica ... ..	3
12	Anterior poliomyelitis ... ..	31
3	Polio encephalitis ... ..	—
10	Cerebro-spinal fever ... ..	9
1	Malaria ... ..	3
33	Dysentery ... ..	219
169	Erysipelas ... ..	170
680	Measles ... ..	3,796
560	Whooping cough ... ..	511
1,531	Chicken pox ... ..	1,470
2,048	Mumps ... ..	85
14	German measles ... ..	60
6,093	Total cases ... ..	8,093

# Tuberculosis (including Port cases).

	CASES.													DEATHS.																	
	At all ages	Under 1	1-	5-	10-	15-	20-	25-	35-	45-	55-	65+	Quarters				Case rate	At all ages	Under 1	1-	5-	10-	15-	20-	25-	35-	45-	55-	65+	Death rate	
													1st	2nd	3rd	4th															
Pulmonary tuberculosis Cases notified	449	2	4	28	17	54	66	101	76	57	34	10	137	125	92	95	} 1.20	M. 132	}	—	}	2	—	21	26	59	45	46	20	11	} 0.55
Other cases*	51	—	—	2	2	5	9	11	9	6	4	3	10	7	13	21		F. 98													
Non-Pulmonary tuberculosis Cases notified	146	2	21	38	21	19	12	15	8	4	2	4	59	31	26	30	} 0.39	M. 17	}	1	}	2	2	6	6	6	5	3	2	—	} 0.09
Other cases*	20	—	6	—	2	2	1	4	2	2	1	—	4	7	2	7		F. 23													
Total 1938	666	4	31	68	42	80	88	131	95	69	41	17	210	170	133	153	1.59	270	1	7	4	2	27	32	65	50	49	22	11	0.64	
Total 1937	673	5	29	73	58	85	87	140	84	61	38	13	184	189	160	140	1.62	332	4	11	5	10	30	43	78	53	47	39	12	0.80	
1936	657	2	41	75	38	59	82	124	103	66	52	15	194	169	123	171	1.58	337	2	10	2	6	21	40	74	69	48	48	17	0.82	
1935	641	—	38	59	34	67	104	132	86	59	46	19	173	156	171	141	1.56	329	—	20	4	5	19	48	76	59	41	45	12	0.80	
1934	673	1	36	54	50	59	99	131	104	75	44	21	183	182	158	150	1.64	353	1	15	8	6	22	44	88	50	73	30	16	0.85	
1933	708	7	34	72	51	83	109	134	81	79	37	21	202	204	146	156	1.75	390	6	12	5	12	31	58	89	64	64	31	18	0.95	

\* Cases coming to the knowledge of the M.O.H. otherwise than by notification.

## TUBERCULOSIS.

The clinical work of this section is under the supervision of Dr. C. J. Campbell Faill, assisted by Dr. J. Scott Currie and Dr. Constance Ham.

Last year I reported on the reorganisation which had taken place following the transfer of the tuberculosis section to the Central Health Clinic.

### *Appointment system.*

An appointment stating a definite date and time has been made for every patient whenever possible. In view of the fact that a continuous service is provided at the health centre, this arrangement has worked well. The main object, elimination of waiting by patients, has been more or less achieved, and this will continue to improve when old patients find that punctuality lessens the waiting time in out-patient departments. It should be emphasized that an appointment by telephone or letter is always advisable, although the examination of any urgent case is never postponed.

On the whole in spite of drawbacks, the appointment system lessens the hardship of waiting by patients considerably, and every effort will continue to lessen the waiting time still more.

### *General practitioners and X-ray of chest facilities.*

Since the opening of the chest clinic full advantage has been taken of the facilities given to general practitioners for patients to be X-rayed without examination by chest medical officers. This has entailed more work, but on the whole it has been repaid by the discovery of early cases and the chronic fibroid phthisis type which very often masquerades as chronic bronchitis disseminating infection unwittingly.

The X-ray facilities have also increased the difficulties of differential diagnosis as a considerable number of patients suffering from bronchiectasis of varied type, chronic inflammatory conditions and carcinoma have been found. This inevitably entails a demand for more beds for observation and further investigation of obscure cases, which have been supplied by Southmead Hospital.

### *Artificial pneumothorax-active treatment at clinics.*

The number of refills given during the past three years was 1936, 526 ; 1937, 531 ; 1938, 653. These figures show more patients are being treated with artificial pneumothorax, and this accounts for the gradually increasing number of refills. There is a marked beneficial effect both physically and psychologically, while a patient continues refills.

### *Cases.*

During the year 666 fresh cases of tuberculosis came to the knowledge of the department, a decrease of 7 on last year. Of these, 595 were duly notified under the regulations. Pulmonary cases numbered 500 or 75.1 per cent. of the total. There was no instance of wilful neglect or refusal to notify cases of tuberculosis.



Sanatorium admissions increased during the year by 12 to 742. With the exception of five cases all were accommodated in local sanatoria. The total number of names on the tuberculosis register on December 31st was 3,644, a decrease of seven on the number registered on the same date last year and 3,356 of these cases were under supervision at the dispensary. Thirty-four grants of milk were made to tuberculous patients on the recommendation of the chest physician.

### *Deaths.*

The number of deaths from all forms of tuberculosis fell by 62 to 270 of which 230 were cases of respiratory tuberculosis. These included 28 deaths of persons whose tubercular condition had not previously been notified—16 pulmonary cases (nine males and seven females), and 12 non-pulmonary cases (six males and six females), giving a ratio of non-notified tuberculous deaths to total tuberculous deaths compared with the previous year of :—

	Males.		Females.	
	1937	1938	1937	1938
Pulmonary ...	1 in 8·6	1 in 15	1 in 26·4	1 in 14
Non-pulmonary	1 in 4·6	1 in 3	1 in 2·5	1 in 4

Of the total deaths in the city from all forms of tuberculosis, 48·1 per cent. occurred in sanatoria or hospitals controlled by the public health authority.

### *Comparative statistics.*

City	Per 1,000 population	
	Case rate	Death rate
Birmingham ... ..	1·15	0·78
Liverpool ... ..	2·04	0·89
Manchester ... ..	1·67	0·97
Sheffield ... ..	2·08	0·58
Leeds ... ..	1·39	0·80
<b>Bristol ... ..</b>	<b>1·59</b>	<b>0·64</b>
Hull ... ..	1·63	0·89
Newcastle ... ..	2·19	1·00
Bradford ... ..	0·96	0·63
Nottingham ... ..	1·27	0·82
Stoke ... ..	1·64	0·79

The tuberculosis case and death rates for Bristol last year are shown compared with similar rates for ten industrial towns of comparable dimensions. The local case rate decreased by 0·03 to

1.59 per 1,000 population and the death rate decreased by 0.16 to 0.64 per 1,000 population.

*Public Health (Prevention of Tuberculosis) Regulations, 1925.*

No case requiring action under these regulations came to the notice of the department during the year.

*Public Health Act, 1936. Section 172.*

The necessity of applying to a court for an order under this Act did not arise during the year.

*Boarded-out tuberculosis cases.*

The Public Assistance Committee continue to co-operate with the health department in the boarding-out of homeless patients suffering from tuberculosis and this co-operation has proved of great benefit to patients who have completed a period of treatment in sanatoria. Suitable accommodation is found by the chest clinic staff. The relieving officer arranges for the payment of agreed board and lodging terms. During 1938 arrangements were made to board out four patients; and at the end of the year the number of patients boarded out under this scheme was 15.

**After-care of tuberculosis cases.**

Care and after-care work in Bristol is carried out by a voluntary committee consisting of representatives of the Corporation, Insurance Committee, Public Assistance Committee and various other organisations of a civic and social character. This committee works in close co-operation with the public health department.

The forms of assistance granted and workshop scheme to provide employment for male patients, were fully described in last year's report.

For many years past the Health Committee has loaned shelters to tubercular patients who possess suitable gardens for their erection. These shelters are regularly inspected and kept in repair by Bristol Appliances Ltd., a subsidiary organisation of the Tuberculosis Voluntary Care Committee for the employment of male ex-patients. At the end of the year six shelters were in use.

*Kiosks.*

During the year the Health Committee gave their consent to the establishment of a kiosk at Southmead Hospital for the sale of stationery, cigarettes, wrapped confectionery, etc., on similar lines to that at Ham Green; this was opened in the early part of August and has provided a much needed service at the institution as well as giving employment to another ex-sanatorium patient.

**Chest clinic.**

There were 1,005 children of school age examined at the dispensary during the year. Of these, 536 were old cases attending for re-examination and 469 were new cases. Of the latter, 18.9 per cent.

were diagnosed as definite cases of tuberculosis, 3·6 per cent. as suspects, and 77·5 per cent. as non-tuberculous. The total number of examinations of school children was 1,710.

### The work of the chest clinic during 1938.

1937		1938
5,197	(1) Total examinations .. .. .	6,797
8,156	(2) Total attendances (including contacts) .. ..	9,750
2,004	(3) Attendances of school children .. .. .	2,958
520	(4) Total injections .. .. .	424
531	(5) Artificial pneumothorax .. .. .	653
	(6) Consultations with medical practitioners—	
76	(a) personal .. .. .	93
1,731	(b) other .. .. .	1,906
578	(7) Visits by chest physicians to homes (including personal consultations) .. .. .	566
5,179	(8) Visits by nurses and health visitors to homes .. ..	3,186
86	(9) Cases seen by consulting surgeon .. .. .	164
132	—attendances of these cases .. .. .	226
53	(10) Cases seen by ear, nose and throat surgeon .. ..	94
90	—attendances of these cases .. .. .	156
1,116	(11) Attendances for ultra violet light treatment .. ..	2,199
1,125	(12) Specimens of sputum, etc., examined .. .. .	1,238
1,631	(13) X-ray examinations .. .. .	3,287
3,147	(14) Cases on dispensary register (1st January) .. ..	3,311
96	(15) Cases transferred to other areas, cases not desiring further assistance and cases 'lost sight of' .. ..	139
230	(16) Cases written off as dead during the year (all causes) ..	198
5	(17) 'Recovered' cases restored to dispensary register ..	7
42	(18) Cases transferred from other areas and cases returned after discharge under (15) in previous years .. ..	68
476	(19) Insured persons under domiciliary treatment (31st December) .. .. .	502
785	(20) T.B. Plus cases on dispensary register (31st December)	729
3,311	(21) Cases on dispensary register (31st December) .. ..	3,356

DIAGNOSIS	PULMONARY.				NON-PULMONARY.				TOTAL.				GRAND TOTAL	
	adults		children		adults		children		adults		children			
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.		
A.—NEW CASES examined during the year (excluding contacts) :														
(a) Definitely tuberculous	194	131	18	15	17	27	43	27	211	158	61	42	472	
(b) Diagnosis not completed .. ..	..	..	..	..	..	..	..	..	2	2	6	13	23	
(c) Non-tuberculous .. ..	..	..	..	..	..	..	..	..	224	228	116	100	668	
B.—CONTACTS examined during the year :—														
(a) Definitely tuberculous	4	9	1	2	1	1	1	1	5	10	2	3	20	
(b) Diagnosis not completed .. ..	..	..	..	..	..	..	..	..	..	..	2	2	4	
(c) Non-tuberculous .. ..	..	..	..	..	..	..	..	..	..	60	182	129	495	
C.—CASES written off the dispensary register as :—														
(a) Recovered .. ..	62	55	4	2	23	18	9	6	85	73	13	8	179	
(b) Non-tuberculous .. ..	..	..	..	..	..	..	..	..	293	417	250	229	1189	
D.—CASES on dispensary register on December 31st :—														
(a) Definitely tuberculous	1197	1030	145	106	219	246	227	159	1416	1276	372	265	3329	
(b) Diagnosis not completed .. ..	..	..	..	..	..	..	..	..	2	2	8	15	27	

## Sanatoria available for in-patient treatment, 1938.

	Beds	Admitted			Discharged or Transferred			Died		
		M.	F.	T.	M.	F.	T.	M.	F.	T.
<b>Pulmonary—early cases :</b>										
Winsley Sanatorium, nr. Bath	58	47	39	86	47	39	86	—	1	1
<b>Pulmonary and non-pulmonary (early and advanced cases).</b>										
*Ham Green Sanatorium ...	160	198	153	351	135	122	257	52	39	91
*Southmead Hospital ...	**	82	51	133	52	45	97	16	5	21
<b>Pulmonary and non-pulmonary —children (under 16).</b>										
*Frenchay Park Sanatorium	96	90	73	163	81	78	159	—	1	1
<b>Non-pulmonary cases.</b>										
Cossham Hospital ...	9	2	2	4	2	2	4	—	2	2
*Institution owned by Council.										
*Varies as required, approx. 35.										
<b>Totals</b>	<b>358</b>	<b>419</b>	<b>318</b>	<b>737</b>	<b>317</b>	<b>286</b>	<b>603</b>	<b>68</b>	<b>48</b>	<b>116</b>
Cases admitted to and discharged from outside institutions		Admitted			Discharged			Died		
		M.	F.	T.	M.	F.	T.	M.	F.	T.
Papworth Colony ...	...	—	—	—	—	—	—	—	—	—
Alton ...	...	1	—	1	1	—	1	—	—	—
Brompton Hospital ...	...	—	1	1	—	1	1	—	—	—
Cotswold Sanatorium ...	...	1	—	1	1	—	1	—	—	—
Burrow Hill Colony...	...	1	—	1	—	—	—	—	—	—
Home of Rest, Plympton St. Maurice		—	1	1	—	1	1	—	—	—
		3	2	5	2	2	4	—	—	—
<b>Totals</b>	<b>...</b>	<b>422</b>	<b>320</b>	<b>742</b>	<b>319</b>	<b>288</b>	<b>607</b>	<b>68</b>	<b>48</b>	<b>116</b>



**Immediate results of treatment of definitely tuberculous patients  
discharged from residential institutions during 1938.**

Classification on admission to the Institution.		Condition at time of discharge.	Duration of residential treatment in the institution.															Grand Totals
			Under 3 months			3—6 months.			6—12 months.			More than 12 months			Totals			
			M.	F.	Ch.	M.	F.	Ch.	M.	F.	Ch.	M.	F.	Ch.	M.	F.	Ch.	
PULMONARY TUBERCULOSIS	Class T.B. minus.	Quiescent .. ..	17	7	9	32	14	17	4	15	7	1	3	2	54	39	35	128
		Not quiescent ..	6	7	2	2	4	1	1	1	..	..	..	..	9	12	3	24
		Died in institution	2	1	..	..	..	..	..	..	..	..	..	..	2	1	..	3
	Class T.B. plus group 1.	Quiescent .. ..	1	..	..	3	1	..	..	2	..	1	1	..	5	4	..	9
		Not quiescent ..	2	2	..	5	1	..	..	..	..	..	1	..	7	4	..	11
		Died in institution	1	..	..	..	3	..	2	1	..	1	1	..	4	5	..	9
	Class T.B. plus group 2.	Quiescent .. ..	..	2	..	5	4	..	4	4	..	4	7	..	13	17	..	30
		Not quiescent ..	6	..	..	2	4	..	6	5	..	4	2	1	18	11	1	30
		Died in institution	5	2	..	2	2	..	1	4	..	2	2	..	10	10	..	20
	Class T.B. plus group 3.	Quiescent .. ..	3	..	..	5	..	..	2	3	..	1	1	..	11	4	..	15
		Not quiescent ..	10	9	..	23	17	..	15	9	..	2	5	1	50	40	1	91
		Died in institution	12	5	..	7	2	..	4	6	..	2	..	..	25	13	..	38
TOTALS (Pulmonary) .. ..			65	35	11	86	52	18	39	50	7	18	23	4	208	160	40	408
NON-PULMONARY TUBERCULOSIS	Bones and joints.	Quiescent .. ..	..	1	2	1	2	1	2	2	3	..	2	10	3	7	16	26
		Not quiescent ..	1	..	1	2	..	..	..	2	..	..	1	3	..	4	1	7
		Died in institution	..	1	..	1	..	..	..	1	1	1	1	..	2	3	1	6
	Abdominal.	Quiescent .. ..	..	..	1	1	..	7	1	..	3	..	1	..	2	1	11	14
		Not quiescent ..	..	..	..	1	2	1	..	1	..	..	..	..	1	1	3	5
		Died in institution	1	2	..	1	..	..	..	..	1	..	..	..	1	3	..	4
	Other organs.	Quiescent .. ..	..	..	..	1	1	..	3	..	..	..	..	..	..	4	1	5
		Not quiescent ..	1	..	..	..	..	..	1	1	..	..	..	..	1	1	1	3
		Died in institution	..	..	..	..	..	..	1	..	..	1	..	..	2	..	..	2
	Peri-pheral glands.	Quiescent .. ..	1	1	5	1	..	10	..	2	4	..	..	1	2	3	20	25
		Not quiescent ..	..	..	2	1	..	2	..	..	..	..	..	..	1	..	4	5
		Died in institution	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
TOTALS (Non-pulmonary) ..			4	5	11	7	5	23	5	9	15	2	4	12	18	23	61	102

**Results of observation of doubtfully tuberculous cases discharged  
from residential institutions during 1938.**

Diagnosis on discharge from observation.	Pulmonary tuberculosis						Non-pulmonary tuberculosis						Totals.		
	Stay under 4 weeks.			Stay over 4 weeks.			Stay under 4 weeks.			Stay over 4 weeks.					
	M.	F.	Ch.	M.	F.	Ch.	M.	F.	Ch.	M.	F.	Ch.	M.	F.	Ch.
Tuberculous	*1	...	...	†2	‡3	7	...	...	...	...	§2	2	3	5	9
Non- tuberculous	4	1	...	11	15	33	1	3	2	1	3	22	17	22	57
Doubtful	...	...	1	...	...	...	...	...	...	...	...	...	...	...	1
Totals	5	1	1	13	18	40	1	3	2	1	5	24	20	27	67

\* 1 died Acute ulcerative endocarditis.

† 1 " Carcinoma Bronchus.

1 " Hodgkin's disease (P.M.)

‡ 1 died.—1a Cardiac failure;

b Chronic endocarditis and mitral stenosis.

§ 1 " —1a Cachexia;

b Lympho sarcoma of lumbar vertebrae.

1 " 1a Toxaemia; b Perinepuric abscess.

# VENEREAL DISEASES.

Average 1931— 1935	1937	Treatment Centre.	1938		
			Males	Females	Total
1,000	1,114	New patients : ... ..	827	276	1,103
232	166	Syphilis ... ..	94	76	170
26	25	Syphilis (congenital—included above) ... ..	11	17	28
5	3	Soft chancre ... ..	5	—	5
467	600	Gonorrhoea ... ..	415	107	522
386	345	Non-venereal ... ..	313	93	406
2,388	1,919	Total patients : ... ..	1,469	519	1,988
51,848	52,962	Total attendances : ... ..	41,507	12,624	54,131
16,643	15,800	Individual attention by M.O. ... ..	12,203	5,247	17,450
35,205	37,162	Irrigation, dressing, etc. ... ..	29,304	7,377	36,681
928	741	Under treatment end of year :	625	210	835
716	297	Syphilis ... ..	268	141	409
...	2	Soft chancre ... ..	3	...	3
211	319	Gonorrhoea ... ..	316	51	367
...	23	Non-venereal ... ..	38	18	56
79	59	Inpatients : ... ..	54	21	75
2,708	1,872	Inpatient days ... ..	839	1,275	2,114
12,302	11,658	Total injections : ... ..	...	...	11,359
6,277	5,807	Arsenobenzene compounds ... ..	...	...	5,620
6,025	5,851	Bismuth ... ..	...	...	5,739
4,059	6,482	Pathological specimens examined :	...	...	9,351
40	25	At centre ... ..	...	...	52
4,019	6,457	At approved laboratory ... ..	...	...	9,299

There has been no change in the local arrangements for the treatment of venereal disease, as set forth in my report for 1930. In the table which follows, the medical director of the treatment centre (Dr. S. Hardy Kingston) gives particulars of the numbers, types, treatment, pathological examinations and attendances from each area for the year 1938. The number of new patients showed an increase of 68 on the previous year while the number of patients treated increased by 69. This affected the attendances which increased by 1,169 to 54,131 including attendances made by 406 non-venereal cases under the routine system of examination whenever possible of members of the families of true cases. A large proportion of these family examinees were found to be free of the disease. At the end of the period under review 835 patients remained under treatment at the centre. During the year intravenous injections of salvarsan decreased by 187, and 75 patients were admitted to the institution for residential treatment (21 women and 54 men).

The employment of sulphanilamide and its allied preparations produced satisfactory results in the treatment of gonorrhoea. Uleron has also been given clinical trials. In the majority of cases the effects of these new drugs have been rapid, resulting in the disappearance of the signs and symptoms of the disease. The response however was not satisfactory in every case, and to this extent their action may be described as inconstant.

Twenty-six medical practitioners in the city are recognised for the purpose of obtaining free of charge from the Corporation approved substitutes for salvarsan and 638 specimens were submitted by private practitioners for examination at the Bristol University department of preventive medicine.

The staff at the treatment centre remains as previously published, viz. :—medical director, four assistant medical officers, one sister, two nurses, two domestic staff, and two orderlies.

*Services rendered at the treatment centre during the year, classified according to the areas in which the patients resided.*

County or County Borough	Cases dealt with for the first time and found to be suffering from—					Attendances of all patients.	Aggregate number of 'in- patient days' of all patients
	Syphilis	Soft Chancres	Gonorrhoea	Non- Venereal	Total		
Bristol ...	134	5	458	373	970	52,243	1,825
Cardiff ...	—	—	—	1	1	1	—
Manchester ...	—	—	2	—	2	5	—
Essex ...	—	—	—	—	—	1	—
London ...	7	—	10	4	21	74	9
Nottingham ...	—	—	1	—	1	1	—
Cheshire ...	—	—	3	—	3	21	—
Birmingham ...	—	—	3	1	4	11	—
Bath ...	1	—	2	2	5	127	—
Exeter ...	—	—	—	—	—	2	—
Monmouthshire ...	—	—	1	1	2	21	76
Glasgow ...	—	—	1	—	1	1	—
Somerset ...	12	—	23	6	41	677	110
Gloucestershire ...	12	—	17	13	42	873	79
Wiltshire ...	2	—	1	2	5	62	15
Devon ...	—	—	—	—	—	1	—
Hants ...	—	—	—	1	1	4	—
Oxford ...	—	—	—	—	—	1	—
Gloucester ...	—	—	—	1	1	1	—
Salford ...	1	—	—	—	1	1	—
Lancs ...	1	—	—	—	1	1	—
Dorset ...	—	—	—	1	1	2	—
Totals ...	170	5	522	406	1103*	54,131	2,114

\*These totals do not include cases known to have received treatment at other centres for the same infection.

**OTHER DISEASES.****Cancer.**

(Registrar-General's figures).

	DEATHS								Rate per 1,000 pop.
	At all ages	Under 15	15—	25—	35—	45—	55—	65+	
Male	336	3	1	6	18	28	104	176	—
Female ..	412	3	—	2	25	63	97	222	—
Total 1938	748	6	1	8	43	91	201	398	1·80
Percentage	—	0·8	0·1	1·1	5·7	12·2	26·9	53·2	—
Deaths :									
1937	671	3	4	11	28	95	169	361	1·62
1936	685	4	5	7	34	94	168	373	1·65
1935	683	2	3	8	37	82	188	363	1·65
1934	650	1	7	5	37	105	193	302	1·60

Cancer, which again ranks as the second greatest cause of mortality, was responsible for 748 or 15·38 per cent. of the total Bristol deaths during 1938, 77 more than the number recorded last year. The table above illustrates the fatality percentage in age groups and by sex—80 per cent. of the deaths occurring in persons over 55 years of age. The death rate for the disease increased by 0·18 to 1·80 per 1,000.

I am indebted to Dr. F. G. Bergin, honorary director, for the following report on the work of the Bristol National Radium Centre during 1938 :—

**Bristol National Radium Centre and Joint Radiological Department.**

The government of the joint radiological department of the Bristol Royal Infirmary and the Bristol General Hospital remains unchanged. This body, the Joint Radiological Committee, is satisfied with the organisation and management of the centre and has reported to the National Radium Commission in the following terms :

*Report of the Governing Body.*

Progress has been satisfactory but the programme of expansion has been held up unavoidably as amalgamation of the Bristol Royal Infirmary with the Bristol General Hospital is not yet complete. Until this amalgamation has been consummated it is impossible to re-shuffle the other departments to make the necessary room.

The year has proved a valuable one in obtaining the costs of running the department so that satisfactory arrangements may be made with public bodies and private patients. The Committee appreciate the lack of accommodation and every effort is being made to secure further beds. Additional x-ray therapy apparatus has been obtained and is in the process of being installed.

The committee are able to present this year figures based on a year's working. There is no great increase in these proportionately over those for the last six months of the preceding year as all apparatus has been worked to capacity. In fact, the maintenance of the high number of cases treated has been satisfactory in that



from September last the deep therapy unit at the Bristol General Hospital has been working only nine hours a day instead of from eleven to twelve. The number of outpatients attending daily for radium treatment has been reduced. The reason for this is that many of these cases now receive low-voltage near-distance x-ray therapy instead of radium. Where possible the after-care of patients is shouldered by the department, especially in the case of patients with reactions, living in the Bristol neighbourhood. This has resulted in a speedier convalescence and diminution of the severity of the resultant reactions.

There has been no increase in clerical assistance and the follow-up has worked smoothly.

The Committee are of the opinion that the medical staff will shortly have to be increased. It will be extremely difficult for the honorary staff and radium officer to supervise efficiently four x-ray therapy units, radium work and the large number of clinics which are rendered necessary to save patients from a distance an unnecessary journey—and in our opinion it will be necessary very soon to appoint another whole time radio therapist. A physicist (Dr. N. Thompson) has received a part time appointment. He still retains his post as lecturer in the physics department of the University of Bristol, which renders the resources of that department available for radiological work. It is likely that, during the ensuing year, another part time and junior physicist will be appointed to do the routine work. This will give Dr. Thompson more time for research work which is so essential and for teaching purposes.

The Committee are endeavouring to found a teaching school for radiographers during the coming summer. This will, incidentally, increase the personnel of the department.

Teaching for radiotherapy is provided for medical students :—

1. Series of lecture demonstrations is given in the final year of the medical curriculum. These are given by the honorary radiologists and radium officer.
2. Students are allowed to attend the radiological clinics and may here have full access to the department should they be interested.
3. This will also be given in the curriculum for the proposed school for radiography.

The Joint Radiological Committee is not at present desirous of offering any suggestions to the Commission.

During the past year an indication of the number of cases likely to be referred for treatment from the Bristol area has been received. The Committee would like to point out that this number is already in advance of the numbers which might be expected.\* The Committee further realise that, should it be necessary to provide for large portions of Gloucestershire and Somersetshire under provisions of the Cancer Bill, the departmental facilities will have to be increased. In looking forward, the Committee would welcome

---

\* *Ministry of Health Publication 89. Cancer, etc. p. 8.*

" . . . Bristol . . . . it may be assumed that all practical steps are taken within the limits of facilities available, to secure that all patients capable of benefiting from treatment do so."

information from the Commission as to their intentions for the radiotherapeutic provision for Monmouthshire. It has been the practice for a large number of all types of cases from this area to receive treatment in Bristol. The Committee would like to know whether radiation cases are likely, in the future, to be referred to the Welsh Centre at Cardiff or whether as Monmouth is an English county, such cases are likely to come to Bristol.

During the past year very little radiation therapy has been done at the Bristol Royal Infirmary and very few radium cases have been treated there. The radium then used was not that belonging to the Commission. A few private patients have received x-ray therapy, but this practice is likely to be discontinued with the provision of further private wards at the General Hospital which it is hoped will be provided as soon as possible. It has been necessary to provide also for the treatment of skin cases in the V.D. beds, none of which are at present available at the General Hospital.

There has been no increase in the bed accommodation (nine male beds and 11 female beds) set aside for radio-therapeutic cases. As has been pointed out above, the Committee are making every effort to increase this number. The inevitable waiting-list has not been entirely due to the shortage of beds, as approximately one half of the cases are waiting for out-patient treatment. Every endeavour has been made to keep the waiting-list as low as possible by an increasing selectivity of the type of case taken on for treatment. This has not been entirely successful as cases on the waiting-list are apt to progress unfavourably while waiting. The surgical and medical staff of the Hospital have been extremely helpful in lending beds for urgent cases.

The structural alterations during the past year have involved taking over by the department of four new rooms with a fifth to follow in the near future. These are being equipped in accordance with the plans approved by the Committee early in 1938. In the first room two Chaoul low-voltage near-distance x-ray tubes have been housed. These have been provided through a grant to the Bristol Cancer Research Committee from the British Empire Cancer Campaign. The second room has been built to accommodate the superficial x-ray therapy apparatus. It is proposed to move this with the present deep-therapy plant so that all apparatus will be near together and easily supervised and worked. In the two other rooms structural alterations are nearly completed and these will hold a new 200 k.v. apparatus together with the present deep therapy outfit the latter being moved at the same time as the superficial machine so as not to interfere with the working of the department. The fifth room will be temporarily allocated for the physicist's use pending further alterations under the programme of expansion.

Increasing use has been made of the operating table in the radiographic theatre. This has proved valuable for the insertion of radon seeds in out-patient cases, and is extremely useful as it obviates borrowing one of the surgical theatres and the work can be carried out by the departmental staff at its own convenience. A number of naevi are treated with seeds in the children's ward.

Two radiotherapeutic clinics are held weekly as before. In addition several special clinics are held in collaboration with other members of the honorary staff for the purposes of following-up and discussing the results of treatment. Co-operation with other members of the honorary staff in this and other matters is now very effective. It is realised that there are certain difficulties which have to be overcome in the case of numbers of the honorary staff who do not normally work at the General Hospital. This liaison could be greatly improved when the radiotherapeutic staff is increased to allow more time when not actively engaged in supervising treatment.

Since the appointment of a physicist, routine check calibrations of the x-ray apparatus have been carried out. These have shown the apparatus reliable and such variations as occur are due to line variations. Unless these prove rather larger than at present indicated the Committee would wish to avoid the expense of a stabiliser. All radium containers are now submitted to a periodic check at a three monthly interval unless it is thought desirable to remove any particular needle for investigation.

All radium dressings are tested electrically as a matter of routine and during the past year no radium container at the General Hospital has been lost. A condenser chamber of the Sievert type has been designed and a number of these made locally. An electroscope for use with them has been made and tested and a series of measurements of the stray radiation received by the staff is on the point of being commenced. New safe accommodation for the hospital radium is being provided in the departmental safe-room. The safe containing the national radium is free from serious contamination. Protection in all cases of present therapy equipment has been tested and found adequate.

### *Report of the Joint Radiological Department.*

The medical staff remains as published last year. Non-medical staff consists of a part-time physicist, six radiographers, three sisters and a nurse, and five other staff.

Pathological reports and routine blood counts on all members of the staff are carried out by a fully equipped pathological department attached to the Bristol General Hospital. There is close co-operation between this department and the radiological department. In addition to the ordinary routine work of reporting on biopsies, etc., the pathologists advise on the continuation or irradiation in those patients who show an altered blood picture. The staff of this department work in collaboration with the professor of pathology in the University of Bristol.

The statistical survey being undertaken by the Bristol Cancer Research Committee for the British Empire Cancer Campaign has meant placing of the departmental records for the disposal of this body, and accommodation has been provided in the department for the staff carrying out this survey of all patients in the General Hospital. Radiographs are now taken of radium implants so that the physicist may check the dosage.



In order to save time patients spend in hospital, a biopsy clinic has been instituted under the supervision of the senior resident officer of the Bristol General Hospital, and whenever possible, biopsies are obtained so that treatment may be commenced without delay when the patient is admitted to the Hospital.

In-patient days	1936	...	2,719	
„	„	1937	...	4,719
„	„	1938	...	7,020

### *Radium.*

Radium loaned by the Commission	...	489.28 mgs.
" owned by the General Hospital		420 mgs.
" " " Royal Infirmary		200 mgs.

The average availability per day for national radium = 68.4% av. 285.58 mgs. This figure is the amount of radium which is actually in the safe at 5 p.m. and, therefore, frequently includes radium required for use the next day. Radium is counted as being available until the morning on which the patient is about to commence treatment. An alpha ray electroscope has been designed and constructed and with its aid radium needles have been tested for leakage as opportunity arose. One National Radium needle D.646, 1.33 mgs; one B.G.H. needle, 1 m.g.; and three B.R.I. needles have been found to leak badly. These have been withdrawn from circulation for repair. The total amount of radon used during 1938 was 400 millicuries which was obtained from the Radium Institute, London, as in previous years.

### *Associated hospitals and authorities.*

There has been no major change in our relations with the associated hospitals, but this is because authorities are waiting for definite information from changes likely to occur from the Cancer Bill. The liaison has been established and unofficial talks have been held with hospital representatives from neighbouring towns. An official letter has been received from the staff at Bath suggesting that negotiations between them and this centre should be started.

Patients continue to be referred from the Bristol municipal services for radiological treatment. Co-operation has been greatly increased as the surgical and medical staff of the municipal hospitals is now drawn from the staffs of the amalgamated hospitals. In spite of certain difficulties, it is now very much easier for the department to transfer cases to Southmead Hospital which need long hospitalisation. This helps to free our beds.

Patients are also referred for radiological treatment from the Eye Hospital, Children's Hospital and Cossham Hospital, and in the case of in-patient transfers from any of the Bristol hospitals, an endeavour is made to arrange these with as little delay as possible.

There has been rather less use made of the Queen Victoria Convalescent Home owing to the recent demand for out-patient radium application.



The follow-up clinics at Trowbridge and Swindon are still held once a month by a member of the radiotherapeutic staff:—Trowbridge, 176; Swindon, 168. New patients seen at these clinics are admitted under the honorary surgeon who is on duty the day on which they are admitted unless the referring doctor has requested their admission under a definite surgeon. The Wiltshire authorities have made arrangements, where possible, to co-operate in the same manner as the Bristol municipal authorities in taking cases needing hospitalisation out of our wards with the minimum of delay.

No real progress has been made with the health department of the Gloucestershire County Council. Arrangements remain unaltered. The Gloucestershire County Council assists the hospital with the expenses of some of the cases coming from Gloucestershire, whether referred through the public assistance committee or through the practitioner.

As in the case of the Gloucestershire County Council, there has been no change in the co-operation of the Somerset County Council, but in both these instances it is expected that progress will result as a result of the cancer campaign.

Patients treated with radium in 1938.											
<i>Malignant—</i>				<i>Rodent Ulcer—</i>				<i>Non-malignant—</i>			
Referred	1938	..	125	Referred	1938	..	44	Referred	1938	..	83
"	1937	..	18	"	1937	..	5	"	1937	..	3
"	1936	..	2	"	1936	..	5	"	1936	..	1
"	1935	..	1	"	1935	..	3				
"	1933	..	1	"	1934	..	1				
"	1931	..	1								
			148				58				87

Radiological patients during 1938.						
Type	Applying	Treated				
		Total	Radium	H. V. T.	L. V. T.	Chaoul
Malignant ..	490	278	125	128	10	15
Non-malignant	888	820	83	70	627	40
Rodent Ulcers	82	62	44	..	..	18
Totals ..	1,460	1,360	252	198	637	73

The non-malignant cases were chiefly skin conditions treated by L.V.T. : of these no further notice is taken in this report.

Cases referred and treated 1931-37.						
				Malignant	Non-malignant	Rodent Ulcers
1931	..	Referred	..	119	39	..
		Treated	..	76	28	..
1932	..	Referred	..	185	118	..
		Treated	..	119	89	..
1933	..	Referred	..	143	91	..
		Treated	..	99	66	..
1934	..	Referred	..	180	106	..
		Treated	..	122	73	..
1935	..	Referred	..	209	134	..
		Treated	..	159	106	..
1936	..	Referred	..	129	86	38
		Treated	..	109	60	37
1937	..	Referred	..	410	248	67
		Treated	..	304	235	40

This information is amplified as regards malignant cases to indicate sex, age groups and survival rates of all such patients treated at the centre during the past five years.

*Malignant cases only.*

Regions	Year	Referred	Treated	Sex	Age groups.										Alive at end of 1938		Alive at end of 1 year		Alive at end of 2 years		Alive at end of 3 years		Alive at end of 4 years		Alive at end of 5 years	
					0-	20-	30-	40-	50-	55-	60-	65-	70-	Age unknown	No.	Per-cent-age	No.	Per-cent-age	No.	Per-cent-age	No.	Per-cent-age	No.	Per-cent-age	No.	Per-cent-age
Mouth and tongue	1933	17	12	M. 11	—	—	—	—	1	2	4	1	3	7	58	4	33	6	50	4	33	4	33			
	1934	17	10	F. 7	—	—	—	—	—	—	1	1	3	5	50	3	30	3	30	1	10	—	—			
	1935	21	20	F. 16	—	—	—	—	—	—	1	1	7	12	60	4	20	4	20	—	—	—	—			
	1936	24	23	F. 21	—	—	—	—	—	—	1	1	1	10	43	7	30	—	—	—	—	—	—			
	1937	59	39	F. 32	2	—	—	—	—	—	—	—	—	16	41	—	—	—	—	—	—	—	—			
	1938	45	39	F. 7	—	—	—	—	—	—	—	—	—	32	82	—	—	—	—	—	—	—	—			
Upper air passages	1933	9	8	M. 5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
	1934	11	10	F. 3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
	1935	17	14	F. 7	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
	1936	10	9	F. 6	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
	1937	44	31	F. 23	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
	1938	58	52	F. 17	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
Breast	1933	17	8	F. 8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
	1934	29	14	F. 14	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
	1935	29	19	F. 19	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
	1936	19	10	F. 10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
	1937	86	57	F. 57	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
	1938	104	75	F. 75	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
Female genital	1933	41	33	F. 33	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
	1934	34	30	F. 30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
	1935	40	33	F. 33	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
	1936	33	34	F. 34	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
	1937	79	66	F. 66	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
	1938	92	67	F. 67	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
Rectum and anus	1933	4	0	M. 0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
	1934	12	3	F. 3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
	1935	7	2	M. 1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
	1936	1	1	M. 1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
	1937	4	9	F. 5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
	1938	15	9	F. 4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
Lip	1933	18	15	M. 14	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
	1934	16	15	M. 15	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
	1935	24	22	F. 22	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
	1936	17	17	F. 17	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
	1937	30	23	F. 23	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
	1938	28	29	F. 29	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
Skins	1933	12	8	M. 6	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
	1934	10	10	M. 8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
	1935	13	10	M. 8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
	1936	10	9	F. 6	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
	1937	23	17	F. 17	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
	1938	35	28	M. 28	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
Myeloid Leukaemias Hodgkin's, etc.	1937	13	13	M. 7	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
	1938	25	22	F. 6	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
	1933	25	15	M. 13	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
	1934	52	31	F. 26	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
	1935	59	39	F. 31	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
	1936	15	6	M. 3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
General	1937	69	49	M. 29	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
	1938	79	61	F. 38	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
	1933	25	15	M. 13	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
	1934	52	31	F. 26	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
	1935	59	39	F. 31	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
	1936	15	6	M. 3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
Totals	1933	143	99	M. 49	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
	1934	181	123	F. 66	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
	1935	209	159	F. 84	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
	1936	129	109	F. 54	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
	1937	417	304	M. 129	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
	1938	481	382	F. 175	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			

N.B.—Statistics for 1937 onwards include patients treated with deep x-rays as well as radium. Those prior to 1937 include radium patients only.



There is a tendency for proportionately less radium work to be done, and an increasing demand for high voltage therapy.

The procedure for follow up of cases of malignant disease not treated by radiotherapy is for enquiry to be made annually from patient, practitioner or relative, whichever seems most suitable, letters being sent out at three monthly intervals.

Out of the 950 malignant cases treated with radium since 1931 only two remain untraced :—

- (1) *Case of carcinoma vulva.* Treated with radium, March 1935. Last report—letter from patient 19/3/36—now bedridden. June 1937—letter from P.A.C. officer to say patient died two years previously. Repeated letters to relieving officer to verify exact date of death—no reply. Letter sent by almoner to chief P.A. officer—no result. Since last report, present occupier visited, who stated that patient had died and relatives moved to Wiltshire. Enquiries made from registrar of births and deaths who could not trace any record of patient.
- (2) *Case of carcinoma cervix.*—Treated by hon. surgeon during 1937—routine letter of enquiry returned by P.O. Wrote doctor who does not know where patient is living at present.

Of the 258 rodent ulcers treated with radium since 1931 none remain untraced.

#### *Malignant cases referred.*

<i>Geographical survey.</i>			<i>Anatomical survey.</i>		
Bristol	...	269	Mouth and tongue		46
Somerset	...	123	Upper air passages		63
Glos.	...	22	Breast	...	106
Wilts	...	46	Female genital	...	92
Monmouth		19	Rectum and anus	...	16
Dorset	...	6	Lip	...	28
Miscellaneous		5	Skin	...	36
			General	...	78
			Hodgkins	...	25
		490			490

#### *Statistics 1938.*

	Referred for radiological treatment			Accepted for radiological treatment		
	Bristol	Not Bristol	Total	Bristol	Not Bristol	Total
Malignant ...	265	216	481	251	197	448
Rodent ulcers...	43	38	81	43	38	81
Non-malignant*	664	210	874	661	206	867
Totals ...	972	464	1,436	955	441	1,396

\* The majority of these patients were non-malignant skin conditions who received superficial x-ray therapy.



### The Cancer Act, 1939.

While this report is going to press, the Cancer Act 1939 has become law, and it may be of interest to publish a paper delivered to the Annual Congress of the Royal Institute of Public Health and Hygiene in May, 1939. The paper touched briefly upon certain matters in the Act and upon the schemes which may be submitted by local authorities. The Act according to the preamble is

An Act to make further provision for the treatment of cancer, to authorise the Minister of Health to lend money to the National Radium Trust, to prohibit certain advertisements relating to cancer, and for purposes connected with the matters aforesaid.

and the provisions of the Act are briefly as follows :—

1. It shall be the *duty* of local authorities to make arrangements to secure that the facilities for the treatment of persons suffering from cancer are adequate and to submit schemes within one year for the approval of the Minister of Health. 'Treatment' above includes facilities for the diagnosis of cancer.

And local authorities may pay the travelling expenses of patients (and their companions) so that they may avail themselves of the service.

2. The local authority must consult the governing bodies and the staffs of voluntary hospitals providing services and a representative organisation of registered medical practitioners in the area.
3. It is noticed that nothing in this section shall authorise the establishment of a general domiciliary service by medical practitioners, but as the Minister of Health said in committee 'that will not take away any powers which are already exercised,' which, presumably, refers to the Poor Law Service. This also includes the nursing service.
4. For the purposes of this Act, local authorities may make arrangements one with the other or form joint boards, including representatives of hospitals and the profession, to provide the service necessary and the Minister may require arrangements of this kind.

#### *Financial arrangements.*

A government grant will be available to local authorities. This grant is based upon the increase in expenditure in any year over and above that incurred in respect of the year ended 31st March, 1938. The grant is approximately 50 per cent. of the increase in expenditure as stated above but increased or decreased according to the weighting factor, whilst there is no minimum grant, in no case will it exceed 17/20 of the additional expenditure. Later, this grant will be included in the block grant to the Council and will be subject to an efficient service being maintained in accordance with Section 104 of the Local Government Act of 1929.

The Minister may lend money to the National Radium Trust, on such conditions as the Treasury may determine, for the purpose of enabling that Trust to purchase radium and other radio-active substances and apparatus and appliances required for radio-therapeutic treatment.

*Prohibition of advertisements.*

The prohibition of advertisements takes the form of prohibition of any offer to treat any person for cancer or to prescribe or to give any advice in accordance with the treatment thereof, or to refer to any article in terms which are calculated to lead to the use of that article in the treatment of cancer. It shall be a defence if this advertisement was intended merely to bring to the notice of certain people, e.g., Members of Parliament and the professions—medicine, nursing and pharmacy—and suppliers of surgical appliances, etc., when the advertisement was placed in a publication and was of a technical character intended for circulation amongst those classes or when the person advertising did not know and had no reason to believe that he was taking part in the publication.

This prohibition does not extend to local authorities, the governing body of voluntary hospitals or any person acting with the sanction of the Minister. Prosecution shall not be instituted without the consent of the Attorney General or the Solicitor General. As the Solicitor General stated during the third reading of the Bill in Parliament, no definition is given of the word "advertisement" although that word is amplified in the Act.

Two sections deal specifically with the London County Council and the application of the Act to Scotland.

No guidance is yet available from the Ministry of Health regarding the lines along which schemes should be prepared, but there are certain general considerations which must be borne in mind in preparing any scheme.

In whatever part of the body a cancer may be situated, it presents certain characteristics in its structure and in its behaviour. It is customary therefore, to classify all cancers within one pathological group of diseases. It is quite natural, therefore, that a person should specialise in the study of the effect of certain agents such as x-rays and radium upon these conditions. That specialist is the radiotherapist.

From the clinical aspect however, the same point of view cannot be taken for there is no such person as the cancer specialist. Physicians and surgeons make special studies of certain organs and regions of the body and pay particular attention to the anatomy and physiology of the part. Thus uterine tumours fall into the province of the gynaecologist, brain tumours into the province of the brain specialist and so on. Therefore, if the best scientific methods are to be applied to diagnosis and treatment by surgery of cancer, it can only be done by organising teams of specialists capable of recognising and treating any disease, including cancer, in particular parts of the body.

If the above statements are accepted, then it will only be possible to organise diagnosis and treatment centres in places where the necessary facilities as stated can be obtained.

Cancer is a disease which is not characterised by any pathognomonic sign or symptom which may suggest its presence in any part of the body. A person suffering from cancer may appear before a doctor only because something abnormal has been discovered in the appearance or functioning of part of the body. Sometimes the best that even the practitioner can do is to suspect cancer if the abnormality is situated in some inaccessible site. Nor is cancer the only disease that makes itself known in this way. It is not feasible therefore to conduct public education campaigns against cancer alone, except from the preventive aspect where people are exposed to special risks.\* Educational campaigns against cancer must form part of more general ones against ill health to warn all persons that they must not ignore abnormalities in function or appearance of any part of their bodies. Nor, for the reasons mentioned above, is it possible to establish special cancer diagnosis clinics, even were it advisable, which are freely open to the public. The best that can be done in this direction is to establish a general clinic where all types of cases are admissible and there to sort out the patients that require further investigation by specialists. In order to make such sorting clinics 100 per cent. successful as "ascertainment centres" of cancer they must be available to every person who is or who thinks he or she is not normal physically.

A scheme to operate the Cancer Act may be considered in relation to (i) diagnosis; (ii) treatment.

### (1) *Diagnosis.*

As the establishment of a special domiciliary medical service is precluded by the Act, it will be necessary for patients to attend at appointed places to receive advice, and facilities for this purpose must be provided by or for local authorities. It would appear that local authorities will have power to establish clinics to which patients will have direct access. The value of such clinics for the purpose of preliminary "sorting" of patients has already been discussed but it does not appear at all clear from the discussion in the House of Commons that the Government intends that such "sorting clinics" should be established.

"It is proposed however, by means of this Bill to attempt to secure that no one wherever domiciled who is suffering from, or is *suspected by his doctor* as suffering from cancer, will be without easy reach of the best available advice . . . . ."

The Minister.

"I suggest that he (the general practitioner) does in fact, have a place . . . . . (in these proposals) . . . . . He is the first line to take in this problem as he is in all problems of disease and we are out to strengthen his hands by providing him with expert consultative opinion for his patients."

The Parliamentary Secretary.

One concludes therefore, that clinics provided under this Act are to be consultative clinics staffed with specialists, where general practitioners may send their cases. It is not intended that the general public shall have free access to these clinics. No new

\* See *Public Health*, February, 1933. Cancer as a Public Health Problem. R. H. Parry.



facilities for preliminary consultation are to be provided and the old question of cost, which in the past has been a deterrent to working class mothers from seeking medical advice early, still remains.

With regard to the extent to which these clinics will be provided, the Minister stated :—

“ I reckon that somewhere between 300 and 350 of these are needed. In all these cases it will be very necessary to associate the hospitals, the old established hospitals, closely with these efforts . . . . . ”

If the service is to operate efficiently, the Public Health Department of the local authority should be the “clearing house” for the purpose of organising it. That is to say, when a patient seeks assistance from that department, the medical officer of health being responsible for organising the clinics, arranges the appointment.

In this connection mention may be made of a scheme recently put into operation in Bristol for specialist services in the municipal hospitals.

The professors of clinical medicine and clinical surgery at the University of Bristol were approached and prepared a scheme whereby all members of the consulting clinical staff of the teaching hospitals were formed into teams and their services made available to the Corporation at the municipal hospitals. The two professors themselves were made directors of their respective branches.

As far as possible each team is expected to specialise in a particular branch of medicine or surgery and an assurance is given that when this has occurred appropriate cases will be transferred to the team accordingly.

A fixed payment is made to each of the professors who in turn is responsible for the allocation of fees to the teams. The scheme ensures that all services which the Corporation may require, with the exception of attendances in court in connection with workmen's compensation or other litigation, are available at all times and for the purpose regular attendances are made by the staff to the municipal hospitals.

We are fortunate, therefore, in having in Bristol arrangements with the specialists which can be extended without difficulty to include consultations with general practitioners.

## (2) *Treatment.*

In most parts of the country radium centres have been established, and invariably these have been organised in relation to large hospitals where teams of specialists are available.

In the debate in the House of Commons the Minister of Health stated :—

“ There are 22 treatment centres (in Great Britain) at present and we think we shall need some 12 new treatment centres.”

“ The 22 centres are situated at hospitals so placed geographically that there are still large areas of the country for which the proper facilities are not reasonably accessible.”

One of the greatest troubles that some of us who have been interested in this problem for many years have had to face is the



fact that there is an insufficient number of hospital beds throughout the country to give immediate treatment to all cases, even of cancer, that urgently require it.

In a paper on this subject,\* I mentioned the result of some investigations in Bristol. It must be remembered, however, that these figures apply to a period more than six years ago, but there is no reason for thinking that the facilities for diagnosis at least, have improved at all since then.

There will be little purpose in establishing clinics throughout the country unless plenty of hospital beds are available both for diagnosis and for treatment. The Minister of Health himself laid great stress upon the need for additional beds :—

“ We want additional beds, and I reckon these to be approximately 1,000 in number at the existing or new centres or in hospitals associated with them.”

\* *Public Health*, February, 1933. Cancer as a Public Health Problem. R. H. PARRY :—

“ I have analysed some facts in relation to intervals of waiting treatment in 51 cases of cancer in the breast. Most of these cases were first of all seen by a private practitioner, and then made their way or (in most cases) were referred into a Bristol hospital for treatment.”

Table III.

Interval between first consultation with private practitioner and hospital consultation.	No.	Percentage approx.
Less than one week .. ..	30	60
1—2 weeks .. ..	8	16
2—4 weeks .. ..	4	8
4 weeks and over .. ..	9	18
Total .. ..	51	..

“ If one takes this table at its face value one sees that the general practitioner, in 60 per cent. of the cases, sent his patient within one week to seek specialist advice and hospital treatment. But 18 per cent. who did not seek advice until four weeks or more had passed is a substantial figure.”

Table IV.

Interval between first consultation with hospital and admission for treatment.	No.	Percentage approx.
Less than one week .. ..	12	24
1—2 weeks .. ..	8	16
2—4 weeks .. ..	12	24
4 weeks and over .. ..	19	38
Total .. ..	51	..

“ In Table IV, 38 per cent. waited a *month* or more after being seen by the hospital staff before they were admitted for treatment, and 24 per cent. waited 2—4 weeks. One must not rush to the conclusion that this is entirely due to the existence of a waiting list although, no doubt, it is partly and probably largely so, but not infrequently the patient for personal or domestic reasons prolongs the period before treatment. Further information on this point would be valuable. It is almost certain that by education and pressure from the medical men responsible this period could be considerably shortened. One fact is clear—that the intervals of waiting for diagnosis and of waiting for treatment are such as to prejudice the recovery of the patients considerably.”

The Minister gave an assurance that these beds are required for all cases of cancer :—

“ It is very desirable that people in the later stages of the disease who cannot in the ordinary course of events be completely cured should have all the alleviation which modern treatment can afford.”

It is concluded that such additional beds as are required to give immediate access for the treatment of cancer will be eligible for government grant.

A few brief remarks should be made with reference to the preparation of schemes by local authorities. It is noted that the Act provides for consultations with the voluntary hospitals and with the general medical practitioners before submitting arrangements to the Minister. Power is also given to alter schemes under Section 3 (5). The Minister has already appointed a Cancer Committee of expert medical men to advise him regarding schemes.

With regard to the recovery of expenses from the patient for treatment, it is best to quote from the reply by Mr. Wedderburn on behalf of the Government in rejecting an amendment on this matter :—

“ Section 28 of the Local Government Act, 1929, enabled local authorities to recover expenses from patients if they could afford to pay them, and legal opinion has been consulted, and we are advised by our own legal advisers—and I believe that others who have consulted legal opinion have received the same advice—that that is in fact mandatory, that is to say, that the local authority are bound to recover expenses for hospital treatment from patients who can afford to pay. In any case we could not accept this amendment, because it would apply not only to hospital treatment but also to diagnosis, and it is our intention that diagnosis, in the case of the rich as well as the poor, should be given free in order to give people who have any ground for suspecting that they may be in the early stage of this disease an inducement to obtain diagnosis free at the early stage.”

In the discussion upon the Bill the Minister clearly intended that “diagnosis” should be free. On the other hand, the cost of “maintenance in hospital” (subject to assessment) should be recovered. But “diagnosis” and “maintenance in hospital” are not mutually exclusive terms in as much as a patient may be in hospital for diagnosis. This is a question which requires elucidating.

What is the effect of charging patients or persons legally liable to maintain them for the cost of maintenance in hospital, upon the willingness of the patient to undertake treatment which may be lengthy or to enter a hospital for alleviation of an incurable condition? If in those instances it has a deterrent effect because of the expense involved, then such effect will be greater when a patient is recommended for admission to hospital for diagnosis of a condition which is neither painful nor troublesome. Here again, the old question of “cost” as a deterrent remains unsolved by the Act.

#### *Regionalisation.*

It is clear that the work of diagnosis and treatment of cancer will fall on the hospitals, voluntary and/or municipal, of the larger cities, and although the duty of local authorities under the Act is to

provide facilities for the needs of their areas, outside areas will wish to take advantage of schemes prepared by the councils of the large cities. Indeed, the debate on the second reading of the Bill seems to shew that the Government anticipates that this will be done. In that event the local authority will apparently be responsible for administering a scheme which will provide facilities for persons outside its area. The Minister has indicated on the second reading of the Bill, that he anticipates that in such a case the local authority providing facilities will recover the cost of treatment of patients from the councils of the areas in which such patients reside. It is important to note this development, because it is a striking departure from the principle that a local authority is responsible only for the provisions of services within its area. In the past, local authorities have been entirely responsible for the provision of services within their areas, and have had no powers or duties to provide services for persons outside their areas. This is true of the county boroughs, and also of the counties, if one takes into consideration both the county councils and the district councils.

This principle is beginning to break down. Quite apart from trading services, such as gas, water and electricity, where there may be areas of supply extending beyond the boundaries of the local authority affording the supply, other local government activities are being extended beyond the boundary of the local authority responsibility for those activities. In the case of town planning for example, the town planning authority may prepare a scheme for land within or in the neighbourhood of the district of the authority, and in Bristol our planning scheme comprises most of the urban and rural districts adjacent to the city.

The question has arisen in another connection in Bristol. The larger voluntary hospitals intend to abandon maternity work and have given notice to the local authority to that effect. When this step is taken the Corporation will be responsible for the provision of that service for residents in the city, but what is to happen to residents in adjoining areas, who have in the past been catered for by the Bristol voluntary hospitals?

All these considerations tend to show that the existing areas are becoming unsuited to the present day functions of local government. The old idea of areas as water-tight compartments is being abandoned. This is all to the good. Disease germs know no boundaries, and an increased measure of co-ordination as between adjoining local authorities should prove valuable. Nevertheless the unsuitability of present areas of local government should be recognised and the appropriate alterations made in the structure of local government so that the framework of our system may be adapted to meet the changed conditions of to-day.



## Influenza and respiratory diseases (excluding pulmonary tuberculosis).

*Deaths and notifications at ages and in quarters.*

1937 Rate per 1,000	Disease	1938 Rate per 1,000	Ages								Quarters			
			All ages	Under 1	1-	5-	15-	25-	45-	65-	1st	2nd	3rd	4th
·25	<i>Deaths—</i> Influenza ...	·09*	37	1	2	—	1	4	9	20	18	10	2	7
·35	Bronchitis ...	·35	146	3	—	—	—	3	33	107	63	33	9	41
·52	Pneumonia ...	·55	220	38	23	5	8	20	49	86	82	67	24	56
·21	Other respiratory diseases ...	·10	43	2	2	—	—	6	19	14	13	11	7	12
1·33	Total ...	1·09	455	44	27	5	9	33	110	227	176	121	42	116
·73	<i>Notifications—</i> Primary pneumonia ...	·83	345	37	50	41	31	68	61	57	122	115	39	69
·33	Influenzal pneumonia ...	·13	53	2	1	1	3	15	20	11	28	18	1	6
1·06	Total ...	** ·96	398	39	51	42	34	83	81	68	150	133	40	75

\* England and Wales ·11

\*\* England and Wales 1·10

The group of diseases included in the table above showed a decrease in the number of deaths, due to influenza deaths which fell from 104 to 37. The deaths from these diseases represent 9·4 per cent. of the total compared with 11·7 per cent. last year and 10·5 per cent. in 1936. The death rate fell by 0·24 per 1,000—influenza by 0·16. The attack rate for pneumonia notifications fell by 0·1 to 0·96 and was 0·14 below that for the country.

If necessary, wards are set aside at Ham Green Hospital for the treatment of pneumonia in cases where the home facilities for nursing are inadequate.

The mortality from respiratory diseases was, as usual, mainly amongst middle-aged and elderly people—74 per cent. of the total deaths being persons over 45 years of age. This percentage is lower in pneumonia—59—owing to the mortality amongst infants under five years of age, which accounted for 27 per cent. of the total pneumonia deaths.



**Heart disease.***Deaths, death-rates and percentages in age groups.*

	1937	1938—age groups.								
		Total	0—	15—	25—	45—	55—	65—	75—	80—
Deaths	1,238	1,423	2	11	56	74	214	450	245	371
Rate per 1,000 population	2·98	3·42	%0·14	0·77	3·94	5·20	15·04	31·62	17·22	26·07

There were 1,423 deaths certified from heart disease during the year, 185 more than last year. As usual, more deaths were attributed to this disease than any other in the list of specified causes of death, the ratio being one in 3·4 of the total deaths registered. The death rate was 3·42 per 1,000 population compared with 2·98 in 1937.

No less than 1,066 (74·9 per cent.) of the deaths classified to heart disease occurred amongst people aged over 65 years, or 2·5 per 1,000 of the total death rate (11·64).

**PREVENTION OF BLINDNESS.**

1937	Statistics at 31st March	1938
635	Blind persons on register ... ..	710
46	Registered during year ... ..	73
25	Resident pupils in school ... ..	26
68	Workers and adult pupils in workshops	67
7	Homeworkers ... ..	7
12	Women resident in hostel ... ..	13
400	Blind persons visited by home teachers (not included above) ... ..	520
265	Unemployable blind assisted by grants ...	340
370	Exemption certificates held under Wireless Telegraphy (Blind Persons' Facilities) Act, 1926 ... ..	398
37	Certificates granted during year ... ..	38

My report for 1930 described the administrative scheme made under the Local Government Act, 1929, for the welfare and training of blind persons, the arrangements made to co-ordinate the work of the various committees of the Council and for securing the efficiency of the services delegated to voluntary associations.

Amendments to the scheme made by the Council in July, 1936, and November, 1937, were described in my last report.

The Blind Persons Act 1938 amends existing legislation relating to blind persons and requires that the Council in giving financial assistance to blind persons shall have regard not only to the needs of the blind person himself but also to the needs of members of his household who are dependent upon him. In the past such dependants have been relieved by the Public Assistance Committee. Pending a full examination of the position, the Blind Persons Act Committee instructed the Royal Blind Asylum in paying benefits

to blind persons to make payments in respect of dependants in accordance with the existing scales of relief of the Public Assistance Committee.

During the year inspections were made of the services provided by the Bristol Royal Blind Asylum, including the workshops in Park Street and the hostel for blind women workers in Woodland Road to which unemployable and middle-aged blind women are now admitted. The arrangements made by the Bristol Royal Blind Asylum for the registration, certification, employment, training and welfare of blind persons continue to be adequate and efficient. No new cases are added to the register before examination and certification in accordance with Form B.D.8, and practically all persons already on the register have now been re-examined by the ophthalmic surgeon.

During the year ended 31st March, 1938, the Royal Blind Asylum incurred expenditure amounting to £20,281 for the provision of benefits to adult blind persons, towards which expenditure the Council contributed the sum of £12,121 together with £324 to meet the deficit upon the previous year's expenditure. The Council also expended a sum of £249 in respect of blind persons resident in the institutions of the Public Assistance Committee and paid a further sum of £563 in respect of services rendered to blind persons in the city by various organisations and for medical inspection of blind persons.

The General Manager of the Blind Asylum workshops reports that the general work is now well housed in the re-constructed building and the various employees have accustomed themselves in the new parts of their surroundings without any difficulty. It will be noted that there is a tendency to an increase in the numbers. This increase is chiefly amongst the unemployable blind. The Blind Persons Act 1938 has been applied as from 1st October 1938. The additional responsibilities placed on the Blind Persons Act Committee have called for an increase in the assistance given to the unemployable blind. Disappointment has been felt at the recent decision of the Minister whereby augmentation granted to workshop employees has been ruled as earned income. This decision now prevents blind persons employed in the workshops receiving the Blind Old Age Pension at 40 and is causing correspondingly increased expenditure to the institution.

In connection with the social and welfare work amongst the unemployable blind it is of interest to note the recent establishment of an occupational handicraft centre and also a deaf-blind centre in the assembly hall attached to the workshops. These two new features of the work are affording considerable pleasure to a number of blind and deaf-blind and are meeting with encouragement from the blind themselves.

The work at the school where 26 Bristol pupils are receiving education and training is progressing very satisfactorily. Included in the pupils are several partially sighted boys and girls. These boys and girls leave school at 16 years of age, and it is gratifying to note that to date the school authorities, working with the Juvenile Employment Committee of the Education Department have been able to place such pupils as and when they left school.

### Blind Persons Clinic.

*Report by R. R. Garden, M.A., M.B., D.O.M.S., D.P.H.,  
Certifying Ophthalmic Surgeon.*

A total of 40 sessions was held during 1938, including 32 at the clinic and eight periods of home-visiting for the purpose of examining invalids.

The number of individual examinations was 112, consisting of 95 new applicants and 17 cases under periodical observation. Of the new applicants, 73 were certified as blind persons, while 22 had too much sight to be accepted.

The following is a summary of the causes of blindness, as far as could be ascertained, in the new cases registered during the year :

#### Congenital and undetermined causes—

Congenital, hereditary and developmental	...	...	...	...	5
Myopic error	...	...	...	...	9
Glaucoma, primary	...	...	...	...	10
Cataract, primary	...	...	...	...	18
Other defects	...	...	...	...	4

#### Infectious and bacterial—

Syphilis (congenital)	...	...	...	...	1
„ (acquired)	...	...	...	...	1
Local infection of coats of eye	...	...	...	...	4
Tuberculosis	...	...	...	...	1
Eczematous kerato-conjunctivitis	...	...	...	...	1
Chronic septicaemia, auto-toxic, focal sepsis	...	...	...	...	12

#### Traumatic—

Trauma—non-industrial	...	...	...	...	1
-----------------------	-----	-----	-----	-----	---

#### General diseases—

Vascular diseases	...	...	...	...	2
Diseases of central nervous system	...	...	...	...	1
Diabetes	...	...	...	...	3

---

73

---

During the year two sessions were held for the purpose of examining former pupils of the partially-sighted departments of Carlton Park Special School and of the Royal School for the Blind.

## VII.—APPENDIX.

### *Statistical Tables.*

1. Birth-rates, death-rates, analysis of mortality, maternal death-rates and case-rates for certain infectious diseases in the year 1938—Bristol, England and Wales, London, 126 great towns and 148 smaller towns.
2. Total deaths by cause and age, 1938—Bristol.
3. Principal causes of death, rates and percentages, 1938—Bristol.
4. Population, marriages, births, deaths, natural increase, infant mortality, for calendar year 1938 and previous four years—Bristol.
- 5 & 6. Quinquennial birth and death rates 1881 to 1938—Bristol and England and Wales.
- 7 & 8. Quinquennial infant and maternal mortalities 1881 to 1938—Bristol and England and Wales.
9. Infectious disease in Bristol—mean attack rates 1890 to 1938.

### *Medical Literature published in 1938.*

### *Sectional Reports.*

1. City Hospitals, Sanatoria and Institutions :—  
Ham Green Hospital and Sanatorium.  
Frenchay Park Sanatorium and Orthopaedic Hospital.  
Southmead Hospital.  
Babies' Home and Residential Nursery.  
Stapleton Institution.  
Eastville Institution.  
Dental work in city hospitals and clinics.
2. Meteorological Report.
3. Department of Preventive Medicine.
4. Public Analytical Laboratory Report.



Table 1.—*Supplied by the Registrar General.*

**Birth-rates, death-rates, infant mortality, maternal mortality and case-rates for certain infectious diseases in the year 1938.**

(Provisional figures based on weekly and quarterly returns).

	Bristol	England and Wales	126 County Boroughs and great towns including London	148 Smaller towns (resident populations 25,000 to 50,000 at 1931 Census)	London Administra- tive County
Rates per 1,000 population					
BIRTHS :					
Live .. ..	14.58	15.1	15.0	15.4	13.4
Still .. ..	0.57	0.60	0.65	0.60	0.48
DEATHS :					
All causes ..	11.71	11.6	11.7	11.0	11.4
Typhoid and para- typhoid fevers }	—	0.00	0.00	0.00	0.00
Smallpox ..	—	0.00	—	0.00	—
Measles ..	0.06	0.04	0.05	0.03	0.06
Scarlet fever ..	0.002	0.01	0.01	0.01	0.01
Whooping cough	0.004	0.03	0.03	0.02	0.03
Diphtheria ..	0.05	0.07	0.07	0.06	0.05
Influenza ..	0.10	0.11	0.10	0.11	0.06
NOTIFICATIONS :					
Smallpox ..	—	0.00	0.00	0.00	—
Scarlet fever ..	2.49	2.41	2.60	2.58	2.05
Diphtheria ..	1.56	1.58	1.85	1.53	1.90
Enteric fever ..	0.007	0.03	0.03	0.04	0.05
Erysipelas ..	0.42	0.40	0.46	0.39	0.46
Pneumonia ..	0.94	1.10	1.28	0.98	0.98
Rates per 1,000 live births.					
Deaths under 1 year of age .. ..	42	53	57	51	57
Deaths from diarrhoea and enteritis under 2 years of age ..	1.65	5.5	7.8	3.6	13.1
MATERNAL MORTALITY:					
Puerperal sepsis	0.66	0.89	} Not available		
Others .. ..	2.64	2.19			
Total .. ..	3.30	3.08			
Rates per 1,000 total births (i.e., live and still).					
MATERNAL MORTALITY:					
Puerperal sepsis	0.64	0.86	} Not available.		
Others .. ..	2.54	2.11			
Total .. ..	3.18	2.97			
NOTIFICATIONS :					
Puerperal fever }	13.19	14.42	18.08	12.51	} 3.53 15.46
Puerperal pyrexia }					

*Table 2.—Supplied by the Registrar General.*

**Total deaths by cause and age during the calendar year 1938—Bristol.**

CAUSES OF DEATH.	Sex	All Ages	0—	1—	2—	5—	15—	25—	35—	45—	55—	65—	75—
ALL CAUSES .. .. .	M.	2,404	145	18	28	32	77	102	128	211	450	631	582
	F.	2,460	111	20	32	37	71	75	131	204	336	576	867
1 Typhoid and paratyphoid fevers	M.	..	..	..	..	..	..	..	..	..	..	..	..
	F.	..	..	..	..	..	..	..	..	..	..	..	..
2 Measles .. .. .	M.	13	3	4	5	1	..	..	..	..	..	..	..
	F.	12	2	5	2	1	..	..	2	..	..	..	..
3 Scarlet fever .. .. .	M.	..	..	..	..	..	..	..	..	..	..	..	..
	F.	1	..	..	1	..	..	..	..	..	..	..	..
4 Whooping Cough .. .. .	M.	1	1	..	..	..	..	..	..	..	..	..	..
	F.	1	..	1	..	..	..	..	..	..	..	..	..
5 Diphtheria .. .. .	M.	8	..	..	2	5	1	..	..	..	..	..	..
	F.	14	2	..	2	10	..	..	..	..	..	..	..
6 Influenza .. .. .	M.	20	..	..	1	..	..	2	2	1	6	5	3
	F.	22	1	..	1	..	..	2	2	3	4	9	..
7 Encephalitis lethargica .. .. .	M.	6	..	..	..	..	1	1	1	1	1	1	..
	F.	6	..	..	..	..	1	1	1	2	1	..	..
8 Cerebro-spinal fever .. .. .	M.	4	2	..	..	..	..	1	1	..	..	..	..
	F.	1	..	..	..	..	1	..	..	..	..	..	..
9 Tuberculosis of respiratory system .. .. .	M.	134	..	..	..	1	20	31	27	31	16	7	1
	F.	97	..	..	..	2	28	27	17	16	4	2	1
10 Other tuberculous diseases .. .. .	M.	17	1	1	..	2	4	5	2	1	1	..	..
	F.	23	..	2	4	1	9	1	3	2	1	..	..
11 Syphilis .. .. .	M.	13	2	..	..	..	..	..	2	4	3	2	..
	F.	5	1	..	..	..	..	1	1	1	1	..	..
12 General paralysis of the insane, tabes dorsalis .. .. .	M.	11	..	..	..	..	..	..	1	3	3	4	..
	F.	3	..	..	..	..	1	..	1	..	..	1	..
13 Cancer, malignant disease .. .. .	M.	336	..	..	..	3	1	6	18	28	104	121	55
	F.	412	..	..	1	2	..	2	25	63	97	100	113
14 Diabetes .. .. .	M.	31	..	..	..	..	1	..	..	1	6	17	6
	F.	56	..	..	..	..	..	..	1	3	14	23	15
15 Cerebral haemorrhage, &c. .. .. .	M.	111	..	..	..	..	..	..	..	5	17	46	43
	F.	159	..	..	..	..	..	..	4	13	35	45	62
16 Heart disease .. .. .	M.	655	..	1	..	..	6	5	14	38	121	220	250
	F.	738	..	..	1	2	8	15	24	32	79	210	367
17 Aneurysm .. .. .	M.	17	..	..	..	..	2	..	..	2	3	3	3
	F.	9	..	..	..	..	..	..	2	3	7	..	1
18 Other circulatory diseases .. .. .	M.	113	..	..	..	..	..	..	3	5	29	41	35
	F.	134	..	..	..	..	..	1	3	7	15	39	69
19 Bronchitis .. .. .	M.	65	1	..	..	..	..	1	2	10	12	15	24
	F.	63	..	..	..	..	1	..	2	3	4	12	41
20 Pneumonia (all forms) .. .. .	M.	125	26	5	9	2	5	5	9	24	12	18	10
	F.	98	22	5	4	2	2	1	5	3	10	16	28
21 Other respiratory diseases .. .. .	M.	20	1	1	..	..	..	1	..	4	2	5	6
	F.	27	2	1	..	..	..	3	1	..	4	5	11
22 Peptic ulcer .. .. .	M.	40	..	..	..	..	1	1	8	6	8	10	6
	F.	11	..	..	..	..	..	..	1	2	1	4	3
23 Diarrhoea, &c. .. .. .	M.	15	6	1	..	..	1	2	3	..	1	1	..
	F.	11	2	1	1	1	..	1	1	2	..	..	2
24 Appendicitis .. .. .	M.	16	..	..	..	3	2	2	1	1	1	3	3
	F.	13	..	..	1	2	2	2	1	2	..	2	1
25 Cirrhosis of liver .. .. .	M.	8	..	..	..	..	..	..	..	7	1	1	..
	F.	6	..	..	..	..	..	..	2	2	1	1	..
26 Other diseases of liver, etc. .. .. .	M.	5	..	..	..	..	..	..	..	1	1	1	2
	F.	11	..	..	1	..	..	1	..	1	2	4	2
27 Other digestive diseases .. .. .	M.	52	3	1	2	1	1	3	5	3	9	14	10
	F.	34	4	1	..	2	..	..	..	5	8	6	8
28 Acute and chronic nephritis .. .. .	M.	89	..	..	1	2	3	5	5	10	19	22	22
	F.	74	..	..	..	4	..	1	2	12	14	20	21
29 Puerperal sepsis .. .. .	F.	4	..	..	..	..	2	1	1	..	..	..	..
30 Other puerperal causes .. .. .	F.	16	..	..	..	..	2	6	8	..	..	..	..
31 Congenital debility, premature birth, malformations, etc.	M.	90	87	..	1	1	1	..	..	..	..	..	..
	F.	73	70	..	2	..	..	..	..	1	..	..	..
32 Senility .. .. .	M.	36	..	..	..	..	..	..	..	..	..	4	32
	F.	56	..	..	..	..	..	..	..	..	..	2	54
33 Suicide .. .. .	M.	34	..	..	..	..	..	5	5	9	9	4	2
	F.	15	..	..	..	..	..	3	..	4	6	2	..
34 Other violence .. .. .	M.	107	2	1	6	6	13	16	7	8	17	11	20
	F.	67	1	3	7	2	2	2	1	5	3	17	24
35 Other defined diseases .. .. .	M.	212	10	3	1	5	14	10	12	15	38	55	49
	F.	187	4	1	4	6	12	6	20	18	30	52	34
36 Causes ill-defined or unknown	M.	..	..	..	..	..	..	..	..	..	..	..	..
	F.	1	..	..	..	..	..	..	..	..	..	..	1

Table 3.

*Compiled from figures supplied by Registrar General.***Principal causes of death during calendar year 1938—Bristol.**

Death Rate per 1,000	DISEASE.	Net deaths in 1938	% to total deaths
—	Typhoid and paratyphoid fevers ...	—	—
·06	Measles ... ..	25	·51
·002	Scarlet fever ... ..	1	·02
·004	Whooping cough ... ..	2	·04
·05	Diphtheria ... ..	22	·45
·102	Influenza ... ..	42	·86
·03	Encephalitis lethargica ... ..	12	·25
·01	Cerebro-spinal fever ... ..	5	·10
·56	Tuberculosis of respiratory system	231	4·75
·096	Other tuberculous diseases ...	40	·82
·044	Syphilis ... ..	18	·37
·034	General paralysis of the insane, tabes dorsalis ... ..	14	·29
1·80	Cancer, malignant disease ... ..	748	15·38
·21	Diabetes ... ..	87	1·79
·65	Cerebral haemorrhage, etc....	270	5·55
3·35	Heart disease ... ..	1,393	28·64
·06	Aneurysm ... ..	26	·54
·594	Other circulatory diseases ...	247	5·08
·31	Bronchitis ... ..	128	2·63
·54	Pneumonia (all forms) ... ..	223	4·59
·11	Other respiratory diseases ...	47	·97
·12	Peptic ulcer ... ..	51	1·05
·024	Diarrhoea, etc. ... ..	10	·21
·07	Appendicitis ... ..	29	·60
·034	Cirrhosis of liver ... ..	14	·29
·04	Other diseases of liver, etc. ...	16	·33
·25	Other digestive diseases ... ..	102	2·10
·39	Acute and chronic nephritis ...	163	3·35
·009	Puerperal sepsis ... ..	4	·08
·04	Other puerperal causes ... ..	16	·33
·39	Congenital debility, premature birth, malformations, etc. ...	163	3·35
·22	Senility ... ..	92	1·89
·12	Suicide ... ..	49	1·01
·42	Other violence ... ..	174	3·58
·96	Other defined diseases ... ..	399	8·20
·002	Causes ill-defined or unknown ...	1	·02
11·71		4,864	100·00

Table 4.

*Compiled from figures supplied by Registrar General.*

**Population, marriages, births, deaths, natural increase, infant mortality, for calendar year 1938 and previous four years.—Bristol.**

	1938	1937	1936	1935	1934
<b>Estimated population (mid year) ..</b>	415,500	415,100	413,900	412,625	410,500
<b>Marriages.</b>					
Number .. ..	3,917	3,781	3,805	3,558	3,435
Rate per 1,000 population ..	18·9	18·2	18·4	17·3	16·7
<b>Births.</b>					
Legitimate—males .. ..	3,057	2,982	2,946	2,846	2,816
females .. ..	2,788	2,828	2,775	2,683	2,708
Illegitimate—males .. ..	100	108	97	101	100
females .. ..	113	83	78	85	88
Total .. ..	6,058	6,001	5,896	5,715	5,712
Rate per 1,000 population ..	14·58	14·46	14·24	13·85	13·92
<b>Stillbirths.</b>					
Legitimate—males .. ..	119	116	130	130	138
females .. ..	112	108	94	110	102
Illegitimate—males .. ..	3	6	5	4	8
females .. ..	2	8	1	8	9
Total .. ..	236	238	230	252	257
Rate per 1,000 total births ..	37	38	37	42	43
<b>Deaths.</b>					
Males .. ..	2,404	2,376	2,477	2,214	2,197
Females .. ..	2,460	2,419	2,529	2,291	2,296
Total .. ..	4,864	4,795	5,006	4,505	4,493
Rate per 1,000 population ..	11·71	11·55	12·09	10·92	10·92
<b>Natural increase per 1,000 population .. ..</b>	2·87	2·91	2·15	2·93	3·00
<b>Deaths under 1 year.</b>					
Legitimate .. ..	237	267	267	235	246
Rate per 1,000 births .. ..	41	46	46	42	45
Illegitimate .. ..	19	10	18	19	19
Rate per 1,000 births .. ..	89	52	102	102	101
Total deaths .. ..	256	277	285	254	265
Rate per 1,000 births .. ..	42	46	48	44	46
<b>Diarrhoea and enteritis— (under two years)</b>					
Deaths .. ..	10	9	24	16	17
Rate per 1,000 live births ..	1·65	1·5	4·07	2·8	2·98



Tables 5 &amp; 6.

*Figures from Registrar General's returns.***Births.**

YEAR	BRISTOL		ENGLAND and WALES.
	Number of births.	Birth rate.	
1881-1885	34,574	33·0	33·5
1886-1890	33,279	30·6	31·4
1891-1895	33,091	29·4	30·5
1896-1900	40,420	26·5	29·3
1901-1905	46,280	27·2	28·2
1906-1910	43,805	23·5	26·3
1911-1915	38,666	21·6	23·6
1916-1920	35,732	19·0	20·1
1921-1925	36,795	19·1	19·9
1926-1930	31,592	16·3	16·7
1931-1935	29,124	14·3	14·9
1934	5,712	13·9	14·8
1935	5,715	13·8	14·7
1936	5,896	14·2	14·8
1937	6,001	14·5	14·9
1938	6,058	14·6	15·1

**Deaths.**

YEAR	BRISTOL		ENGLAND and WALES.
	Number of deaths.	Death rate.	
1881-1885	20,168	19·2	19·4
1886-1890	21,164	19·5	18·9
1891-1895	21,199	18·8	18·7
1896-1900	24,630	16·1	17·7
1901-1905	26,609	15·6	16·0
1906-1910	24,818	13·3	14·7
1911-1915	25,367	14·1	14·3
1916-1920	24,747	14·1	14·4
1921-1925	23,411	12·2	12·2
1926-1930	23,258	11·9	12·1
1931-1935	23,356	11·4	12·0
1934	4,493	10·9	11·8
1935	4,505	10·9	11·7
1936	5,006	12·1	12·1
1937	4,795	11·6	12·4
1938	4,864	11·7	11·6

Tables 7 &amp; 8.

*Figures from Registrar General's returns.***Infant Mortality.**

YEAR	BRISTOL.		ENGLAND and WALES
	Number of deaths under one year	Rate per 1,000 births	
1881-1885	4,858	140	139
1886-1890	4,789	144	145
1891-1895	4,767	144	151
1896-1900	6,000	148	156
1901-1905	5,863	127	138
1906-1910	4,804	110	117
1911-1915	4,293	111	110
1916-1920	3,076	86	90
1921-1925	2,549	69	76
1926-1930	1,925	61	68
1931-1935	1,448	49	62
1934	265	46	59
1935	254	44	57
1936	285	48	59
1937	277	46	58
1938	256	42	53

**Maternal Mortality.**

YEAR	PUERPERAL SEPSIS			OTHER PUERPERAL CAUSES.			ALL CAUSES.		
	BRISTOL		ENGLAND AND WALES.	BRISTOL		ENGLAND AND WALES.	BRISTOL		ENGLAND AND WALES
	Number of deaths	Rate per 1,000 births		Number of deaths	Rate per 1,000 births		Number of deaths	Rate per 1,000 births	
1891-1895	67	2.02	2.60	102	3.08	2.89	169	5.11	5.49
1896-1900	69	1.71	2.12	89	2.20	2.57	158	3.91	4.69
1901-1905	70	1.51	1.95	155	3.35	2.32	225	4.86	4.27
1906-1910	63	1.44	1.56	90	2.05	2.18	153	3.49	3.74
1911-1915	56	1.45	1.42	97	2.51	2.61	153	3.96	4.03
1916-1920	51	1.43	1.51	79	2.21	2.61	130	3.64	4.12
1921-1925	49	1.33	1.40	83	2.26	2.50	132	3.59	3.90
1926-1930	44	1.39	1.73	61	1.93	2.54	105	3.32	4.27
1931-1935	44	1.50	1.75	60	2.06	2.54	104	3.57	4.29
1934	10	1.75	2.03	15	2.63	2.57	25	4.38	4.60
1935	7	1.22	1.68	10	1.75	2.42	17	2.97	4.10
1936	9	1.46	1.40	10	1.64	2.41	19	3.10	3.81
1937	7	1.12	0.94	15	2.41	2.17	22	3.53	3.11
1938	4	0.64	0.86	16	2.54	2.11	20	3.18	2.97

Table 9.

**Infectious disease mean attack rates per 100,000 population  
for quinquennial periods since 1890—Bristol.**

DISEASE*	90/94	95/99	00/04	05/09	10/14	15/19	20/24	25/29	30/34	1935	1936	1937	1938
Smallpox .. ..	35	4	5	5	4	2	4	4					
Plague .. ..						2			04				
Diphtheria .. ..	45	80	282	240	174	124	261	218	211	151	107	76	156
Erysipelas .. ..	73	94	96	65	70	53	46	41	39	37	46	42	42
Scarlet fever .. ..	410	264	617	227	361	149	372	315	185	250	200	159	249
Typhus .. ..	09			05			05	05				2	
Enteric fever .. ..	52	66	71	5	26	13	10	7	4	3	5	3	07
Relapsing fever .. ..				24			05						
Continued fever .. ..	2	4	3		2	1	05		04				
Puerperal fever† .. ..	9	8	11	9	7	6	8		3				
Pulmonary tuberculosis				142	225	388	232	176	127	108	113	111	103
Cerebro spinal fever				05	3	8	1	1	3	2	1	2	2
Anterior polio-myelitis					1	2	3	2	1	7	4	3	6
Tuberculous meningitis					5	12	9	5	3	3	2	3	1
Tuber- culosis of { Peritoneum and													
intestines					8	18	13	10	6	8	5	7	5
Spinal column					3	3	4	3	3	2	2	3	3
Joints ..					6	6	9	7	6	4	7	6	5
Other organs					16	44	19	16	14	13	14	16	19
Ophthalmia neonatorum					4	24	26	10	7	6	3	7	9
Measles .. ..						740		05					
Primary pneumonia						9	61	96	73	81	94	73	83
Influenza pneumonia						22	40	47	26	7	14	33	13
Malaria .. ..						7	14	2	1	2	1	5	08
Dysentery .. ..						8	2	7	11	2	11	9	54
Trench fever .. ..						05							
Encephalitis lethargica						1	15	8	2	1	2	1	09
Polio encephalitis							2	3	1			9	
Puerperal pyrexia†..								11	12	9	10	11	19
Chicken pox .. ..								94					
TOTAL .. ..	627	516	1,137	713	920	1,638	1,148	1,093	737	690	648	567	777

\* In order in which notification commenced—dates listed below.

† Under the provisions of the Public Health Act 1936, the condition previously notified as puerperal fever is, from 1st October, 1937, notified as puerperal pyrexia. The figure given under the latter heading for 1937 onwards is the combined rate for the two diseases.

DATES ON WHICH NOTIFICATION COMMENCED :—

Infectious Disease Notification Act, 1889	..	..	..	..	..	12th Feb., 1890.
Pulmonary Tuberculosis—Voluntary Notification	..	..	..	..	..	5th Sept., 1905.
Cerebro Spinal Fever—Local Order (6 months)	..	..	..	..	..	25th Mar., 1907.
Tuberculosis (Pulmonary, Poor Law) Regulations, 1908	..	..	..	..	..	1st Jan., 1909.
"    "    Hospitals	..	..	..	..	..	1st May, 1911.
Cerebro Spinal Fever and Anterior Polio-myelitis—Local Order (6 months)	..	..	..	..	..	9th Oct., 1911.
Tuberculosis (Pulmonary, General) Regulations, 1911	..	..	..	..	..	1st Jan., 1912.
Cerebro Spinal Fever and Anterior Polio-myelitis—Local Order (permanent)	..	..	..	..	..	4th April, 1912.
"    "    "    "    "    "    General Order, 1912	..	..	..	..	..	1st Sept., 1912.
Tuberculosis (all forms) Regulations, 1912	..	..	..	..	..	1st Feb., 1913.
Ophthalmia Neonatorum Regulations, 1914	..	..	..	..	..	1st April, 1914.
Measles and German Measles Order, 1915	..	..	..	..	..	1st Jan., 1916.
Encephalitis Lethargica and Polio-encephalitis Regulations, 1918	..	..	..	..	..	1st Jan., 1919.
Pneumonia, Malaria, Dysentery, etc., Regulations, 1919	..	..	..	..	..	1st Mar., 1919.
Puerperal Pyrexia Regulations, 1926	..	..	..	..	..	1st Oct., 1926.
Malaria, Dysentery and Pneumonia Regulations, 1927 (revoking regulations of 1919)	..	..	..	..	..	1st Jan., 1928.
Chicken Pox—Local Order (9 months)	..	..	..	..	..	21st Mar., 1928.

## Medical literature published in 1938.

A. W. ADAMS, M.S., F.R.C.S.,

"The treatment of retention of urine"

*Medical Press and Circular*, Vol. CXCVI, No. 5171, 1938.

"A case of lobectomy for bronchiectasis"

*Bristol Medico-Chirurgical Journal*, Vol. LV, No. 207, 1938.

"Fractured lumbar spine with unilateral dislocation"

*British Journal of Surgery*, Vol. XXV, No. 99, 1938.

"The Future Administration of the Bristol Hospital Services"

*Journal of the Medical Faculty, Bristol University*, Autumn, 1938.

NORMAN BURGESS, M.A., M.D., B.C., M.R.C.P.

"Seborrhoeic Sycosis"

*British Journal of Dermatology and Syphilis*, 1938.

"Unilateral Swelling and Erythema of the Face"

*Proc. Royal Society of Medicine*, 1938.

H. CHITTY, M.S., F.R.C.S.

"Some tuberculous conditions" (Presidential address to the Bristol Branch of the B.M.A.)

*Bristol Medico-Chirurgical Journal*, Vol. LV, No. 209, 1938.

E. W. HEY GROVES, M.D., M.S., D.Sc., F.R.C.S.

"The treatment of fractures of the forearm bones"

*British Medical Journal*, Vol. I, 1938.

"The treatment of recurrent dislocation of the shoulder"

*British Journal of Surgery*, October, 1938.

"Bone and Joint Surgery"

*Medical Annual* 1938.

"Fractures of the head and neck of the femur"

*Medical Press and Circular*, October, 1938.

R. H. PARRY, M.D., B.S., M.R.C.P. (Lond.), D.P.H.

"Public health authorities and the medical profession"

*Journal of the Medical Faculty, Bristol University*, 1938.

"Clearing of tuberculous dairy herds"

*Medical Officer*, Vol. LX, 1938.

B. A. I. PETERS, B.A., M.D., B.C. Cantab., D.P.H.

"A comparative test of natural and concentrated antitoxin in treatment of malignant diphtheria."

*British Medical Journal*, Vol. II, 1938.

B. A. I. PETERS, B.A., M.D., B.C. Cantab., D.P.H. and

R. N. CUNNINGHAM, M.Sc., Ph.D., A.I.C.

"Chemical nature of the ultra-microscopic particles of serum"

*Biochemical Journal*, July, 1938.

P. PHILLIPS, M.Sc., M.D., Ch.B. and

G. L. FOSS, M.A., B.Chir.

"The suppression of lactation by oral oestrogen therapy"

*British Medical Journal*, Vol. II, 1938.

K. H. PRIDIE, M.B., F.R.C.S.

"Pathological fracture of the right humerus"

*Proc. Royal Society of Medicine*, Vol. XXXI, No. 11, 1938.

DORIS M. STONE, M.D., D.P.H., and

DOROTHY WOODMAN, M.D., M.Sc., M.R.C.S., L.R.C.P.

"A case of polycythaemia terminating in leucoerythroblastic anaemia"

*Journal of Pathology and Bacteriology*, September, 1938.





1938

**REPORT**  
**OF THE**  
**Medical Superintendent**  
**HAM GREEN HOSPITAL**  
**AND SANATORIUM**

B. A. I. Peters, B.A., M.D., B.C. Cantab., D.P.H.

---

Institution administered by the Health Committee.

# STAFF, 1938.

## Medical Superintendent.

B. A. I. Peters, B.A., M.D., B.C. Cantab., D.P.H

## Deputy Medical Superintendent.

B. J. Boulton, M.B., Ch.B.

## Resident Assistants.

N. V. Williams, M.B., Ch.B. (to 13/9/38).

Doreen Daley, M.B., B.S., M.R.C.S., L.R.C.P. (to 28/2/39).

Ian MacGregor, M.B., Ch.B., D.P.H. (from 13/9/38).

Kathleen Brimelow, M.B., Ch.B., M.R.C.S., L.R.C.P., D.P.H.  
(from 10/10/38).

Anny M. Cusack, M.B., B.S., M.R.C.S., L.R.C.P., D.P.H.  
(from 1/3/39).

## Dental Surgeon.

Hanbury Hazell, L.D.S., R.C.S. (Eng.)

## Specialist Staff.

### Consultant physicians :

General ... .. Emeritus Professor J. A. Nixon, C.M.G.,  
B.A., M.D., F.R.C.P. (Lond).

Children's diseases ... .. O. C. M. Davis, M.D., D.Sc., M.R.C.P.

### Consultant surgeons :

Orthopaedic ... .. G. R. Girdlestone, M.A., F.R.C.S. Eng.  
Emeritus Professor E. W. Hey Groves,  
M.D., M.S., D.Sc., F.R.C.S. Eng.

Medical team ... .. Professor C. Bruce Perry, M.D., Ch.B.,  
F.R.C.P.

J. A. Birrell, M.D., B.S., M.R.C.P.

H. H. Carleton, M.A., D.M., B.Ch.,  
F.R.C.P.

R. C. Clarke, O.B.E., M.B., Ch.B.,  
F.R.C.P.

C. E. K. Herapath, M.C., M.D., B.S.

H. J. Orr-Ewing, M.C., M.D., F.R.C.P.

G. E. F. Sutton, M.C., M.D., M.R.C.P.

Surgical team ... .. Professor A. Rendle Short, B.Sc., M.D.,  
B.S., F.R.C.S.

R. V. Cooke, M.B., Ch.M., F.R.C.S.

G. M. Fitzgibbon, M.D., B.S., F.R.C.S.

W. E. Jackman, M.B., Ch.B., F.R.C.S.E.

C. A. Moore, M.B., M.S., Ch.M., F.R.C.S.

R. G. Paul, F.R.C.S.E., L.R.C.P.

D. G. C. Tasker, B.Sc., M.B., M.S.,  
F.R.C.S.

Duncan Wood, F.R.C.S.

### Surgeons :

Genito-urinary ... .. A. W. Adams, M.B., M.S., F.R.C.S.

Orthopaedic ... .. H. Chitty, M.S., F.R.C.S. Eng.

K. H. Pridie, M.B., B.S., F.R.C.S. Eng.

Ear, nose and throat  
diseases ... ..

G. R. Scarff, M.B., F.R.C.S., Eng.

Gynaecology and obstetrics ... .. H. J. Drew Smythe, M.C., M.D., M.S.,  
F.R.C.S., F.C.O.G., M.M.S.A.

H. L. Shepherd, Ch.M., M.B., Ch.B.

Ophthalmology ... .. R. R. Garden, M.A., M.B., Ch.B.,  
D.O.M.S.

Skin diseases ... .. N. Burgess, M.A., M.D., B.C., M.R.C.P.

Venereal diseases ... .. S. Hardy Kingston, M.B., Ch.B., D.P.H.

Consultant morbid anatomist ... .. Professor T. F. Hewer, M.D., M.R.C.P.

Occupational therapy ... .. E. Casson, M.D., D.P.M.

Dental surgery ... .. G. F. Fawn, B.D.S., M.R.C.S., L.R.C.P.

Matron ... .. Miss K. M. Baldwin

Dispenser ... .. Miss W. M. Blackett, L.S.A.

Chaplain ... .. Rev. K. P. Banister, B.A.

Disease	Remaining end of 1937	Admissions as notified	DISCHARGED										Total	Mortality rate per cent.	Diagnosis not confirmed.	Total	Mortality rate Per cent.	Remaining end of 1938
			Diagnosis confirmed		With super-added infections		Total	Mortality rate per cent.	Diagnosis not confirmed.									
			recovered	died	recovered	died			recovered	died								
Scarlet fever	62	809	736	1	23	...	760	0·13	51	1	52	1·9	61					
Diphtheria ...	54	793	525	23	19	...	567	4·0	103	4	107	3·7	169					
Enteric fever	...	10	4	...	...	...	4	...	2	1	3	33·3	...					
Whooping cough	6	42	35	3	2	...	40	7·5	5	1	6	16·6	4					
Measles ...	19	197	188	19	25	...	232	8·0	5	...	5	...	...					
Erysipelas ...	7	71	71	1	1	...	73	1·4	2	2	4	50·0	1					
Broncho-pneumonia	2	31	16	5	1	...	22	22·7	3	1	4	25·0	3					
Lobar pneumonia	...	31	34	5	...	...	39	13	2	...	2	...	2					
Influenzal pneumonia	1	3	1	...	1	...	2	...	...	...	...	...	...					
Puerperal fever	...	13	9	1	...	...	10	10·0	...	1	1	100·0	1					
Chicken pox	11	26	29	1	2	...	32	3·0	...	...	...	...	...					
Dysentery ...	1	17	12	...	...	...	12	...	6	1	7	14·2	...					
German measles	...	2	2	...	...	...	2	...	1	...	1	...	...					
Influenza ...	...	4	3	...	...	...	3	...	1	...	1	...	...					
Mumps ...	...	7	3	...	...	...	3	...	4	...	4	...	...					
Malaria ...	...	1	1	...	...	...	1	...	...	1	1	100·0	...					
Cerebro-spinal fever	...	6	1	...	...	...	1	...	1	...	1	...	2					
Encephalitis lethar- gica	...	2	3	...	...	...	3	...	...	...	...	...	...					
Anterior poliomyelitis	...	15	5	1	...	...	6	16·6	4	...	4	...	3					
Mixed infections, other diseases, observation cases	1	67	28	1	...	...	29	3·4	12	3	15	20·0	6					
TOTALS	164	2,147	1,706	61	74	...	1,841	...	202	16	218	...	252					



## HAM GREEN HOSPITAL AND SANATORIUM.

## REPORT FOR 1938.

*Bed accommodation at nursing capacity.*

	Pavilion	In main wards	In small wards of						Total
			8 beds	6 beds	4 beds	3 beds	2 beds	1 bed	
HOSPITAL WING	A ...	24	...	...	...	...	...	...	24
	B ...	24	...	...	...	...	...	1	25
	C ...	24	...	...	...	...	...	1	25
	D ...	24	...	...	...	...	...	1	25
	E ...	39	...	...	...	...	...	1	40
	F ...	38	...	...	...	...	2	...	40
	G ...	...	...	...	...	6	...	...	6
	H ...	...	...	...	...	...	8	...	8
	I ...	...	...	...	16	...	...	...	16
	J ...	...	...	...	...	...	2	...	2
	K ...	24	...	...	4	...	...	...	28
	L ...	24	...	...	4	...	...	...	28
	M ...	(Opened 1937)	...	6	4	...	...	4	14
SANATORIUM WING	N ...	...	...	...	...	...	20	10	30
	O ...	...	...	...	...	...	18	10	28
	P ...	...	...	...	...	6	12	2	20
	Q ...	...	16	...	...	...	...	4	20
	R ...	...	...	...	...	6	12	2	20
	S ...	...	...	12	...	...	12	12	36
	T ...	...	...	12	...	...	12	12	36
	Red Cross Chalets	...	8	...	...	...	6	2	16
		...	...	...	...	...	12	...	12
	Totals ...	221	24	30	28	18	116	62	499

**Infectious diseases.**

During the past year, owing to the excessive prevalence of scarlet fever and diphtheria, we have admitted the highest number of patients ever recorded for this hospital—2,147. Part of the increase is due to the admission of 67 cases from North Somerset under the new agreement which came into force in April. This high admission rate was rendered possible by the opening of the new cubicle blocks. Owing to their flexibility they were of the greatest value during the time of pressure in the autumn.

*Scarlet fever.*

There were 809 cases admitted, a considerable increase on recent years. Fortunately the disease was of a very mild type, serious complication being very rare. Only one death occurred from

septic scarlet fever in a child of two years admitted on the sixth day of disease. The discharge of 12 cases after scarlet fever was followed within a month by further cases in the same house, giving a return case rate of 1·6 per cent, about as low a figure as can be anticipated by any means at our disposal at present.

### *Diphtheria.*

A very severe outbreak of this disease occurred associated with the intermediate strain of the diphtheria bacillus in almost every case ; 23 per cent. of the cases were gravely ill compared with 11 per cent. in recent years.

There were 793 cases admitted, 544 were discharged and 23 died, giving a death rate of 4·0 per cent. on the discharges. Of the fatal cases, four died within 14 hours of admission. One fatal case was admitted in the seventh week of disease, from outside Bristol, with complete respiratory paralysis and pulmonary collapse ; although treated in the Drinker Respirator, death ensued. Laryngeal cases, as has been the experience in recent years, were rare, and only four tracheotomies were performed. It is very regrettable that such a large number of cases of this disease should still be admitted of whom 23 died and another 112 were desperately ill for many weeks when overwhelming experience shows that 95 per cent. of these cases were avoidable. The blood of a patient after inoculation against diphtheria undergoes the same changes as after an attack of the disease, that is antitoxin, which is capable of preventing further infection, is formed, and, in most cases, persists for life. A few cases may lose this immunity after an attack of the disease and develop a second attack of the disease. In the same way a few of those inoculated may become susceptible again which accounts for the occasional failure of inoculation to protect. Our experience of inoculation with our staff over many years shows that the protection conferred is successful for years on 95 per cent. of those immunised. Although treatment is successful in preventing death if given early enough, the more serious the disease the more difficult it is for the practitioner to make an early diagnosis. A patient may be hopelessly poisoned within 48 hours of the onset of virulent diphtheria. It is quite certain that general hygiene is not effective in preventing diphtheria, as many of those attacked seriously are living under excellent conditions and are well nourished and well cared for.

Each of these cases treated cost £27 or £21,411 in all, a high preventable expenditure in tears and treasure.

In 113 cases admitted as diphtheria the patients were found to be suffering from some other condition.

### *Whooping cough.*

There were admitted 42 cases of broncho pneumonia associated with whooping cough in young children, of whom three died.

### *Measles.*

There were 197 cases in young children admitted with pneumonia of whom 19 died.

*Erysipelas.*

There were 71 cases admitted of whom one died (1·4 per cent). Previous to the introduction of modern chemotherapy the mortality from this disease was 7 per cent. The modern treatment is a striking advance.

*Pneumonia.*

There were 65 cases admitted during the year of whom ten died. During the latter part of the year by the courtesy of Messrs. May & Baker a large supply of a new drug—693—was placed at our disposal for trial. The effects on cases of pneumonia of all ages, if not too far gone on admission, is so striking that a big drop in the mortality of this disease is to be anticipated.

*Puerperal sepsis.*

There were 13 cases admitted of whom one died. Here again chemotherapy has been found to be of great value. One other case was admitted but was found to be suffering from infective endocarditis with a streptococcus *Viridans*. This case did not respond to any of the new drugs.

*Mixed infections.*

In 19 cases the patients were found to be suffering from two infections on admission ; 29 cases developed a second infection within a few days of admission to hospital, the infection of which was contracted before admission. From these originated 24 cases of secondary infection to others as follows : dysentery *Sonne*—eight cases (reference has been made in former reports to the high infectivity of this complaint) ; scarlet fever—nine cases ; measles, seven cases. The secondary infection rate was thus 1·3 per cent. on all those discharged.

*Operations.*

There were 85 operations performed under general anaesthetic. These included four abdominal sections, 19 acute mastoiditis, one cerebral abscess, two empyemas, and three obstetric operations.

**Staff illnesses.**

Two nurses developed tuberculosis and were transferred to Winsley Sanatorium. It is hoped that the replacement of young nurses by older male orderlies in part of the sanatorium will be followed by a diminution of attacks of this complaint amongst the staff. There is no means yet available for immunising attendants against this disease.

**Research.**

Owing to the generosity of the Sir Halley Stewart Trust we were able to retain Dr. Cunningham's services to assist in carrying out our researches on problems concerned with the site and action of toxins from a biochemical standpoint. A very wide field was covered during the year. The publication of part of our work is

noted elsewhere. Clinical research included a further investigation into the chemotherapy of scarlet fever and pneumonia and the relative value of the intravenous injection of natural and concentrated antitoxin in severe diphtheria. At the moment the continuation of our most important researches is dependent on the generosity of a private trust, which support is liable to terminate at any time. It is to be hoped that, at some time, allocation for research will be part of the provision made by local authorities for these services, as without research there can be no advances.

### General.

The increased scale of pay for the nursing staff approved by the Council during the year has been followed by an increase in the number of applicants—both probationers and trained nurses. For the first time for several years the staff was at full strength during the autumn rush, so that all wards were fully staffed, nor did we have to try and find temporary nurses at high rates to try and fill the gaps. We think the excellent accommodation in the new Home is also an attraction for intending applicants. The higher quality of food stuffs supplied from the farm and gardens also leaves little ground for complaint on that score.

The installation of central heating with the abolition of coal fires completely from several of the fever wards has added greatly to the comfort of the patients and rendered the wards more easily workable for the staff.

We appreciate the valuable and ever willing co-operation of the department of preventive medicine in providing comprehensive services on the pathological and biochemical side of our work.

### Tuberculosis.

#### *Admissions and discharges.*

Remaining end of 1937	Admitted	Discharged	Died	Remaining end of 1938
139	351	257	91	142

There were 351 patients admitted to the sanatorium, a very high proportion of whom with too far advanced disease to hope for any amelioration of their condition. This problem of early treatment is still a long way from solution.

The replacement of female nurses by male orderlies in the male wards was carried out during the year. The increased cost is considerable but the experiment appears to be successful.

The institution of occupational therapy for the patients under the direction of Dr. E. Casson has been enthusiastically taken up by the patients. A great variety of crafts have been started, including the publication of two issues of a magazine. This work has been of great value in minimising the tedium of sanatorium life.



*Immediate results of treatment of definitely tuberculous patients discharged.*

Classification on admission to the Institution.		Condition at time of discharge.	Duration of residential treatment in the institution.															Grand Totals
			Under 3 months.			3-6 months.			6-12 months.			More than 12 months.			Totals			
			M.	F.	Ch.	M.	F.	Ch.	M.	F.	Ch.	M.	F.	Ch.	M.	F.	Ch.	
PULMONARY TUBERCULOSIS	Class T.B. minus.	Quiescent ..	6	2	..	31	17	..	3	11	..	..	1	..	40	31	..	71
		Not quiescent ..	4	9	..	3	4	..	..	3	..	..	..	..	7	16	..	23
		Died in institution	..	1	..	..	1	..	..	..	..	..	..	..	..	2	..	2
	Class T.B. plus group i.	Quiescent ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
		Not quiescent ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
		Died in institution	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	Class T.B. plus group ii.	Quiescent ..	..	..	..	3	1	..	1	1	..	..	..	..	4	2	..	6
		Not quiescent ..	2	..	..	1	..	..	3	..	..	..	..	..	5	1	..	6
		Died in institution	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	Class T.B. plus group iii.	Quiescent ..	2	..	..	2	1	..	2	2	..	..	1	..	6	4	..	10
		Not quiescent ..	14	6	..	25	19	..	12	8	..	..	4	..	51	37	..	88
		Died in institution	13	8	..	6	6	..	6	10	..	8	3	..	33	27	..	60
NON-PULMONARY TUBERCULOSIS	Bones and Joints	Quiescent ..	..	..	..	..	..	..	..	..	..	1	..	..	1	..	1	
		Not quiescent ..	1	..	..	..	..	..	..	..	..	1	..	..	2	..	..	
		Died in institution	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
	Abdominal	Quiescent ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
		Not quiescent ..	..	..	..	..	1	..	..	..	..	1	..	..	2	..	2	
		Died in institution	..	1	..	..	..	..	..	..	..	..	..	..	1	..	1	
	Other Organs	Quiescent ..	..	..	..	..	..	..	3	..	..	..	..	..	3	..	3	
		Not quiescent ..	..	..	..	..	..	..	1	..	..	..	..	..	1	..	1	
		Died in institution	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
	Peri-pheral glands	Quiescent ..	..	..	..	1	1	..	..	1	..	..	..	..	1	2	..	3
		Not quiescent ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
		Died in institution	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	

46 patients, of whom 25 died, are not included, as they did not complete 28 days' treatment.

*Results of observation of doubtfully tuberculous cases discharged.*

Diagnosis on discharge from observation.	Pulmonary tuberculosis						Non-pulmonary tuberculosis						Totals		
	Stay under 4 weeks.			Stay over 4 weeks.			Stay under 4 weeks.			Stay over 4 weeks.					
	M.	F.	Ch.	M.	F.	Ch.	M.	F.	Ch.	M.	F.	Ch.	M.	F.	Ch.
Tuberculous ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Non-tuberculous ..	..	..	..	5	9	..	..	..	..	..	..	..	5	9	..
Doubtful ..	..	..	..	6	2	..	1	..	..	..	..	..	7	2	..
Totals ..	..	..	..	11	11	..	1	..	..	..	..	..	12	11	..

Three of these patients died.

1938

**REPORT**  
**OF THE**  
**Resident Medical Officer**  
**FRENCHAY PARK SANATORIUM**  
**and ORTHOPÆDIC HOSPITAL**

Constance I. Ham, M.B., Ch.B., F.R.C.S.

---

Institution administered by the Health Committee.

## STAFF, 1938.

---

### Resident Medical Officer.

Constance I. Ham, M.B., Ch.B., F.R.C.S.

Specialist staff as for large hospitals, particularly

Physician for diseases of chest ... ..	C. J. Campbell Faill, F.R.C.P. Ed.
Orthopaedic surgeons	H. Chitty, M.S., F.R.C.S. Eng. K. H. Pridie, M.B., B.S., F.R.C.S. Eng.
Dental surgeon ...	J. Donald Rees, L.D.S., R.C.S. Eng.

---

Matron ... ..	Miss L. Allen
Teacher ... ..	Miss E. R. Dix.
Chaplain ... ..	Rev. G. F. Greenup, M.A.

## FRENCHAY PARK SANATORIUM AND ORTHOPAEDIC HOSPITAL.

### REPORT FOR 1938.

#### *Bed accommodation at nursing capacity.*

Pavilion	In small wards of			Total
	13 beds	4 beds	1 bed	
1 .. ..	26	16	—	42
2 .. ..	26	16	—	42
Observation ..	—	—	12	12
Totals ..	52	32	12	96

#### *Admissions and discharges.*

Type of case.	Remain- ing 1937	Ad- missions as notified 1938	Discharged 1938						Remain- ing 1938
			Quiescent	Non- quiescent	Died	Non- tuber- culous	Doubt- ful.	Total	
Pulmonary tuberculosis	25	35	38	5	..	..	1	44	14
Bone and joint tuberculosis	28	19	10	3	..	..	1	14	31
T.B. peritonitis	8	15	14	3	..	..	..	17	3
T.B. adenitis ..	7	14	14	2	..	..	..	16	6
T.B. iritis ..	1	..	..	1	..	..	..	1	..
T.B. tonsils ..	1	..	1	..	..	..	..	1	..
T.B. meningitis	..	..	..	..	1	..	..	1	..
Observation and delicacy ..	13	79	..	..	..	50	13	63	32
Non-tuberculous orthopaedic	4	9	..	..	..	..	..	13	2
Total ..	87	171	77	14	1	50	15	170	88

During the year, 171 children were admitted compared with 150 in 1937, and 170 discharged. There was one death. A considerable number of these cases were admitted for observation and delicacy. Seventy-seven children were discharged with the disease quiescent and 14 with tubercular disease still active.

Altogether 96 operations were carried out including two of a major character. Massage treatments numbered 1,240 and sunlight treatments 1,603. The Kromayer lamp supplied for use in the hospital has proved very useful especially in cases of sinuses associated with tuberculous joints. The infra-red ray lamp has been used in 68 cases, mainly in long standing bone and joint disease and the relief of pain in more acute cases. Gold treatment has been continued and in only one case has it had to be abandoned, owing to skin complications.



Frequent and regular visits were paid to the institution by the chest physician (Dr. Faill) and by the visiting surgeons (Mr. Chitty and Mr. Pridie). Visits as required were made by the dental surgeon (Mr. Rees) whose report on the dental work performed in the institution is included in the general dental report (page 172).

1937	Analysis of treatment.	1938
7	Major operations under general anaesthesia ...	2
103	Minor operations under general anaesthesia (including tonsillectomy and dental extractions) ... ..	74
52	Operations under local anaesthesia ... ..	20
848	General U.V.R. ... ..	1337
572	Local U.V.R. ... ..	266
1429	Massage and exercises ... ..	1240
64	Plaster splints ... ..	95
70	Zinc and gelatine splints ... ..	45
510	Radiographs taken ... ..	528
48	Screenings (included above) ... ..	50
58	Electrical treatments ... ..	52
285	Infra-red ... ..	68

#### *Sanatorium School.*

The teacher reports :—

In March, 1938, two additional assistant teachers were appointed temporarily, making a total staff of four, thus allowing for a second teacher for the orthopaedic ward. This much-needed addition has solved the main difficulties connected with this ward and has undoubtedly increased the efficiency of the school. Both the new members of the staff have entered whole-heartedly into the life of the school and have thoroughly adapted themselves to the unusual conditions of hospital teaching.

Two successful sales of work were held during the year, the proceeds amounting to nearly £11. A display cupboard has been fitted in Ward No. 3, and has proved a considerable asset.

1938

**REPORT**  
**OF THE**  
**Medical Superintendent**  
**SOUTHMEAD HOSPITAL**

P. Phillips, M.Sc., M.D., Ch.B.

---

Institution administered by the Health Committee.

# STAFF, 1938.

## Medical Superintendent.

P. Phillips, M.Sc., M.D., Ch.B.

## Deputy Medical Superintendent.

D. T. Davies, M.R.C.S., L.R.C.P.

## Resident Assistants.

G. Struthers, M.B., Ch.B. (to June 1938)

Mary Gladwell, M.B., B.S. (to October 1938)

N. R. Matheson, M.B., Ch.B.

A. N. H. Peach, M.B., Ch.B. (from August, 1938)

K. G. Bergin, M.A., M.B., B.Chir., M.R.C.S., L.R.C.P.  
(from September 1938)

P. B. Ryan, M.B., Ch.B. (from September 1938)

F. D. Adams, M.R.C.S., L.R.C.P., L.D.S.

## Dental Surgeon.

Hanbury Hazell, L.D.S., R.C.S. Eng.

## Specialist Staff.

### Consultant physicians :

General ... .. Emeritus Professor J. A. Nixon, C.M.G.,  
B.A., M.D., F.R.C.P. (Lond.)

Children's diseases ... O. C. M. Davis, M.D., D.Sc., M.R.C.P.

### Consultant surgeons :

Orthopaedic ... .. G. R. Girdlestone, M.A., F.R.C.S. Eng.  
Emeritus Professor E. W. Hey Groves, M.D.,  
M.S., D.Sc., F.R.C.S. Eng.

Medical team ... .. Professor C. Bruce Perry, M.D., Ch.B.,  
F.R.C.P.

J. A. Birrell, M.D., B.S., M.R.C.P.

H. H. Carleton, M.A., D.M., B.Ch., F.R.C.P.

R. C. Clarke, O.B.E., M.B., Ch.B., F.R.C.P.

C. E. K. Herapath, M.C., M.D., B.S.

H. J. Orr-Ewing, M.C., M.D., F.R.C.P.

G. E. F. Sutton, M.C., M.D., M.R.C.P.

Surgical team Professor A. Rendle Short, B.Sc., M.D., B.S.,  
F.R.C.S.

R. V. Cooke, M.B., Ch.M., F.R.C.S.

G. M. Fitzgibbon, M.D., B.S., F.R.C.S.

W. A. Jackman, M.B., Ch.B., F.R.C.S.E.

C. A. Moore, M.B., M.S., Ch.M., F.R.C.S.

R. G. Paul, F.R.C.S.E., L.R.C.P.

D. G. C. Tasker, B.Sc., M.B., M.S., F.R.C.S.

Duncan Wood, F.R.C.S.

### Surgeons :

Genito-urinary ... .. A. W. Adams, M.B., M.S., F.R.C.S.

Orthopaedic ... .. H. Chitty, M.S., F.R.C.S. Eng.  
K. H. Pridie, M.B., B.S., F.R.C.S. Eng.

Ear, nose and throat  
diseases ... .. G. R. Scarff, M.B., F.R.C.S., Edin.

Gynaecology and obstetrics H. J. Drew Smyth, M.C., M.D., M.S.,  
F.R.C.S., F.C.O.G., M.M.S.A.

H. L. Shepherd, Ch.M., M.B., Ch.B.

Ophthalmology ... .. R. R. Garden, M.A., M.B., Ch.B., D.O.M.S.

Skin diseases ... .. N. Burgess, M.A., M.D., B.C., M.R.C.P.

Venereal diseases ... .. S. Hardy Kingston, M.B., Ch.B., D.P.H.

Consultant morbid anatomist Professor T. F. Hewer, M.D., M.R.C.P.

Occupational therapy ... E. Casson, M.D., D.P.M.

Dental surgery ... .. G. F. Fawn, B.D.S., M.R.C.S., L.R.C.P.

Matron ... .. Miss M. E. Price

Steward ... .. L. J. Fricker

Almoner ... .. Miss E. B. C. Powell, A.I.H.A.

Radiographer ... .. W. F. Philipps, M.S.R.

Dispenser ... .. Miss E. F. Winchester, B.A., M.P.S.

Chaplains ... .. Rev. A. L. White (Church of England)

Rev. J. Rehenan (Roman Catholic)

Rev. S. J. Henshall (Nonconformist)

## SOUTHMEAD HOSPITAL.

### REPORT FOR 1938.

Work on the first part of the scheme of extension commenced in 1937 has progressed satisfactorily and the new nurses' home together with a maternity unit of one hundred beds should be completed by the middle of this year.

Improvements during 1938 consist of the following—

(1) Specialist services : On 1st July, 1938 a scheme was brought into force whereby teams of physicians and surgeons from the amalgamated staffs of the voluntary hospitals became responsible for the medical and surgical work, each team paying regular visits to the hospital. House surgeons and house physicians have been appointed to work under their supervision, whilst the general administration of these beds as regards admission, etc., still remains under the control of the Health Committee through the medical superintendent. This scheme provides the fullest possible service for the patients of the hospital, and with the fusing of the staffs of voluntary and municipal hospitals, it has been possible for these two organizations to work in closer harmony and has already led to a freer exchange of patients between the voluntary and municipal hospitals.

Further details of this scheme will be given in the medical and surgical sections.

(2) The foundation of a peptic ulcer unit.

(3) The provision of fifty more beds for chronic female medical patients in a portion of the former mental deficiency department. This was opened on 1st October, 1938, and whilst the accommodation can only be regarded as temporary, it has liberated an equal number of beds for more acute cases and prevented the accumulation of any female waiting patients.

The beds available were classified as follows :—

Medical	...	...	...	...	144
Surgical	...	...	...	...	72
Children	...	...	...	...	42
Chronic sick	...	...	...	...	153
Tuberculosis	...	...	...	...	68
Maternity	...	...	...	...	44
Cots in maternity...	...	...	...	...	37
					560

The average number of beds occupied daily was 469.

- (a) Highest on 1st Dec., 1938 ... 504 (excluding cots)  
 (b) Lowest on 3rd July, 1938 ... 423                   ,,   ,,

In 1938 the total number of admissions including infants born in hospital was 5,032. This compares with 4,676 in 1937.

During the year 4,347 cases were discharged, whilst there were 604 deaths. The corresponding figures for 1937 were 4,148 discharges and 574 deaths. Statistics regarding the duration of stay of these patients were as follows :—

(a) Under four weeks	...	...	3,724
(b) Over four but under thirteen weeks			867
(c) Thirteen weeks or more	...	...	360



*Massage and electrical department.*

In-patients	1937.	1938.
Total massage treatments .. .. .	3,169	3,011
Total electrical treatments .. .. .	2,233	1,656
Radiant heat treatments .. .. .	2,771	2,621
Remedial exercises, S.R.E. .. .. .	1,177	1,397
Total treatments ..	9,350	8,685

It will be seen that there are slight decreases in the first three and an increase in the last form of treatment. This is accounted for by a variation in the type of case admitted.

*X-ray department.*

The apparatus remained the same as in the previous year. It is hoped that in the near future a completely new X-ray apparatus may be obtained, and more important still a medically qualified radiologist should be appointed. A few sessions per week would meet our present requirements, but such an appointment is essential for the further development of this work. The number of X-ray cases dealt with in 1938 reached a total of 3,342 (screen examinations 664; skiagrams taken 2,678). This is an increase of 22 as compared with the previous year.

**Statistics relating to patients.**

	Remain- ing 1937	Admit- ted	Dis- charged	Deaths	Opera- tions	Remain- ing 1938
Acute infectious diseases ...	—	33	32	1	—	—
Influenza ... ..	—	1	1	—	—	—
T.B. (pulmonary) ... ..	27	56	50	13	2	20
„ (non-pulmonary) ... ..	14	69	57	7	53	19
Malignant disease ... ..	44	291	131	154	51	50
Rheumatism (acute) ... ..	20	36	36	—	—	20
„ (chronic) ... ..	16	20	16	—	—	20
„ (articular) ... ..	6	33	25	2	12	12
Venereal disease ... ..	2	10	9	3	1	—
Puerperal pyrexia ... ..	—	10	10	—	—	—
Other diseases and accidents of childbirth ... ..	5	135	126	4	125	10
Maternity (mothers) ... ..	48	1,213	1,203	—	3†	58
„ (babies) ... ..	43	1,101	1,059	30	—	55
Mental (senile) ... ..	—	5	5	—	—	—
„ (other types) ... ..	—	4	4	—	—	—
Senile decay ... ..	6	10	4	—	—	12
Accidental injury ... ..	28	248	219	29	84	28
Diseases of nervous system ...	30	400	383	15	325†	32
„ „ respiratory system	54	322	235	82	7	59
„ „ circulatory system	68	478	287	188	8	71
„ „ digestive system ...	22	269	238	19	130	34
„ „ genito-urinary system	10	182	129	47	137	16
Skin ... ..	5	48	43	1	2	9
Congenital deformities ... ..	4	32	29	2	24	5
Other diseases ... ..	6	26	16	7	7	9
TOTALS ...	458	5,032	4,347	604	971	539

† Cesarean sections.

‡ 315 Ear, nose and throat.

*Radiation treatment.*

As in former years cases requiring treatment by radium or deep X-ray have been transferred to the radium centre at the Bristol General Hospital. During 1938 the number so transferred was 19. These were suffering from malignant disease affecting the following sites :—

Rectum	...	...	...	...	1
Uterus	...	...	...	...	4
Tongue and mouth	...	...	...	...	3
Lip	...	...	...	...	2
Larynx	...	...	...	...	1
Skin	...	...	...	...	2
Other sites	...	...	...	...	6

This arrangement works well and should be continued.

*Medical section.*

As already mentioned specialist services in this section were extended on 1st July, 1938. The former consultants are still available and in addition three teams of two physicians each were appointed to take charge of the more "acute" medical cases, which are being nursed in three wards allotted to them. House physicians look after these medical patients under the supervision of the visiting physicians and carry out all necessary investigations. One team deals with "neurological" cases, another with "cardiac" cases and the third with "gastric" patients.

A "peptic ulcer unit" has been organized. This has at its disposal about 30 beds in which these special cases can be treated, whilst the treatment both nursing and medical can be standardized.

The more chronic medical cases are separated and treated as formerly, but all these specialized opinions are now available wherever necessary.

From the table of statistics it will be seen that the largest group of admissions, viz. 478, again arose from diseases of the circulatory system. The respiratory system accounted for 322 admissions, whilst nervous diseases were responsible for 400 patients seeking treatment. The deaths from circulatory diseases and respiratory diseases were 188 and 82 respectively.

There were 269 patients admitted suffering from digestive diseases and of these 19 died.

Rheumatism in all its forms accounted for 89 admissions. This is 12 fewer than in 1937 in which year there had been a big fall as compared with 1936. This is particularly gratifying and if progress can be maintained much chronic ill-health will be prevented.

Forty-eight patients were admitted suffering from various forms of skin disease, whilst 56 cases of pulmonary tuberculosis were investigated. From this latter cause there were 13 deaths.

"O" ward is still regarded as a very unsatisfactory building but the large number of aged and senile female patients has made it necessary to provide another 50 beds for this class of case in a portion of the old mental deficiency department. Structurally this ward is even worse. The beds were made available on 1st October, 1938 and by the end of the year they were all fully occupied.

This makes me feel that the provision of such beds is no ultimate answer to the problem, which in my view could be more economically met by the provision of better domiciliary nursing and medical facilities.

The pathological service working through the preventive medicine department has been immensely valuable to the hospital. The professor of pathology in the University has undertaken the post-mortem work greatly to the advantage of this section.

### *Surgical section.*

Surgical teams were also started on 1st July, 1938 whilst the surgeons in the former specialized sections have also been retained.

For general work there are four teams of two surgeons each. These do duty for one week in rotation as far as emergencies are concerned and in addition visit regularly.

Each team consists of one senior and one junior surgeon, whilst house surgeons work under their supervision. The scheme is working satisfactorily and during the year 968 operations were performed under general and spinal anaesthesia compared with 798 in 1937. There were no deaths under anaesthesia.

Blood transfusion was carried out in 18 cases. Fourteen of the donors were provided by the Bristol Voluntary Blood Transfusion Service, the remaining four being relatives of the patients concerned. This compares with five such cases in 1937.

I regret to record a new increase in the number of admissions due to cancer. During 1938, admissions due to this cause were 291, compared with 245 in 1937. Fifty-one operations were performed, 19 were sent for radiation treatment whilst 154 died. This high figure (cf. 110 in 1937), shows the advanced nature of the disease before their arrival here, and the vast majority of them had already received various forms of treatment before admission.

Genito-urinary diseases accounted for 182 admissions and 137 operations were performed, an increase of 43 operations on the previous year. Admissions due to "accidental injury" numbered 248, involving 84 operations.

Appendicectomy was performed in 30 cases whilst there were 50 operations for hernia and four for strangulated hernia.

### *Orthopaedic section.*

During the year 69 cases of non-pulmonary tuberculosis were admitted, and 53 operations performed. Two lobectomies for bronchiectasis were successful and many spinal grafts have given gratifying results. Fractures are largely responsible for the 84 operations mentioned above under "accidental injury," so that the work in this section has been well maintained.

### *Ear, nose and throat department.*

In this section 170 operations for the removal of tonsils and adenoids were performed. There were also seven mastoid operations, 14 operations for deviated nasal septum, 33 antral explorations and 12 operations for nasal polypi, making a total of 236 operations during the year. The tonsil operations were mainly in children referred from school clinics.



*Gynaecological department.*

The number of operations performed in 1938 was 125 compared with 106 in 1937. Operations for "incomplete abortion" reached the high total of 107, and from the findings at operation there is no doubt that many were not due to natural causes. Furthermore, in this large group of cases two deaths occurred. It would appear that some "national" action is necessary in this matter.

*Maternity department.*

During the year 1,093 mothers were admitted for confinement—an increase of 108 on the previous year. The hospital ante-natal clinics were attended by 906 women who recorded 3,761 attendances. At the post-natal clinic there were 958 attendances and also 547 attendances at the special consultative ante-natal clinic.

Details of hospital cases were as follows :—

Total number of cases (20 twins) ...	1,093
Number of live births ...	1,066
" stillbirths ...	47
Ophthalmia neonatorum ...	1
Puerperal sepsis ...	nil
" pyrexia ...	10
Number of maternal deaths ...	2
Deaths following incomplete abortion	2

Seven beds were again allocated for ante-natal treatment and 95 women received some form of in-patient ante-natal treatment in this section. The average duration of stay for maternity cases was 15·3 days. Three Caesarian sections were performed successfully whilst medical aid was necessary in 380 cases. On the midwifery district attached to the hospital 206 mothers were delivered satisfactorily in their own homes. Of these, 19 were doctors' cases and 187 midwives' cases. During the year 10 pupil-midwives were trained in the department for the examination of the Central Midwives' Board. All were successful.

*Dental work.*

This continues to develop and improve, the dentist appointed for the school clinic also carried out the work necessary in hospital. Dentures were again provided for many necessitous cases.

*Occupational therapy.*

This work has been of great value during the past year and soon a larger workshop will have to be found to meet the increasing needs. Patients undergoing this treatment in hospital were photographed as part of a cinematograph record prepared during the year. This film was exhibited at the Annual Meeting of the British Medical Association in Plymouth. It has also been shown in various parts of the country to medical audiences.

*Examinations and teaching.*

The hospital has again been used as a centre for the examinations of the General Nursing Council. From our own staff 17 nurses completed their training. Clinical demonstrations in medicine have been given in the wards throughout the year by Professor C. Bruce Perry.



Medical students have also been in residence here for their intern midwifery training, the total number being twelve.

### *Future developments.*

As already mentioned the first part of our development scheme—a nurses' home for 90 nurses and a maternity department of 100 beds—will be completed by the middle of 1939.

At the time of writing the foundations are being laid for the second part of this scheme which will provide a casualty department and clinics. Plans are also prepared for a new laundry and the necessary kitchen extensions. The third part of this scheme will provide 150 more beds in smaller ward units for the use of certain specialised cases and the exact nature of these is being considered by a medical sub-committee.

In my last report I mentioned the unsatisfactory conditions in Ward "O" whilst since October 1938 a further 50 chronic cases have been accommodated in ward "P." This is even more undesirable and both buildings need urgent replacement.

No canteen arrangements are available for the constantly increasing staff of daily workers, and I should be failing in my duty if I did not press their claims most strongly. We need messrooms that should be well up to modern standards

Finally, if, as seems likely, the hospital is called upon to undertake still more maternity work, further midwifery beds will have to be provided. There is also an urgent need for more storage accommodation, and in view of the future extensions re-arrangement of the present stores will be necessary.

### **ALMONER'S REPORT.**

There was a large increase in the amount of money collected in this department during the year, which was partly due to the increased number of beds. There was also an increase in the number of contributory scheme patients treated, and as shown in the table, 30·13 per cent. of the M.O.H. patients were paid for by a contributory scheme. During the year, agreements were drawn up between the Town Clerk, on behalf of Southmead Hospital, and the contributory schemes of the Bristol Pottery Medical Fund, the Bristol Gas Co. Employees' Medical Charities Fund and Messrs. H. J. Packer & Co. Ltd. Employees' Hospital Fund.

I have been able to collect a certain amount of money for instruments from the national health insurance societies and occasionally from patients, but as a rule, the latter are not in a position to contribute much towards the cost.

The demand for social work has greatly increased and besides convalescence and fares, many interesting social problems have been referred to me. The work could be still further enlarged, but owing to a limited staff and the size of the Hospital, it is not possible to deal with any except referred cases, and it is not always possible to deal with these as fully as I should like.

There has been close co-operation between my department and the municipal and voluntary social services in the city.

One interesting case dealt with during the year, was of a patient who was admitted to this hospital, suffering from concussion as the result of a motor accident. The doctor considered it necessary that she should have three months' complete rest. Her husband had, unfortunately, to be away from home for a month and as there were no relations who could look after the children, arrangements had to be made for them. After co-operation with the Child Guidance Clinic, where one child attended, the Women's Aid Society, the Aeroplane Company and the relieving officer, the children were admitted to the Downend Home. The patient was sent, on her discharge, to the Downs Convalescent Home for a fortnight and then to the Royal West of England Sanatorium, Weston-super-Mare, for another fortnight, and she has now, I understand, quite recovered.

### *Social work statistics.*

Convalescent treatment arranged—				No. of cases
Societies and churches	...	...	...	27
Free beds	...	...	...	17
Public Assistance Committee	...	...	...	14
Full cost by patients	...	...	...	9
N.H.I. Societies	...	...	...	8
Samaritan Fund	...	...	...	7
				<hr/> 82
Grants obtained for fares	...	...	...	6
Extra nourishment obtained	...	...	...	8
Clothing supplied	...	...	...	6
Homes visited	...	...	...	20
Pocket money supplied	...	...	...	3
Homes found for aged people	...	...	...	3
Employment found	...	...	...	1
Training arranged	...	...	...	1
District nurses arranged for	...	...	...	1
				<hr/> 49

### *Outside agencies referred to.*

Welfare officer	...	...	...	156
Bristol Crippled Children's Society	...	...	...	26
United Services Fund, British Legion and Soldiers and Sailors Family Assistance	...	...	...	22
Bristol Civic League of Social Service	...	...	...	17
Churches	...	...	...	14
National Society for the Prevention of Cruelty to Children	...	...	...	11
Unemployment Assistance Board	...	...	...	10
Approved Societies	...	...	...	8
Church Army	...	...	...	3
Moral Welfare Association	...	...	...	3
Salvation Army	...	...	...	3
Welfare departments of large firms	...	...	...	3
Blind Association	...	...	...	2
Deaf and Dumb Association	...	...	...	2
Guild of the Handicapped	...	...	...	2
Medical charities	...	...	...	2
Probation officer	...	...	...	1
				<hr/> 285

*Financial statistics.*

	No.	% of total	Paid to Almoner.	Accounts issued for.
			£ s. d.	£ s. d.
Patients paying full cost ...	272	12·79	158 16 4	755 8 2
Contributory schemes ...	681	32·02	769 17 9	2,274 0 1
Partial payments ...	576	27·08	1,267 17 2	453 1 6
Free cases ...	588	27·64	—	—
N.H.I. additional benefits ...	10	0·47	26 5 0	5 11 0
Total ...	2,127	100	£2,222 16 3	£3,488 0 9

Maternity cases.	No.	% of total	Paid to Almoner.	Accounts issued for.
			£ s. d.	£ s. d.
Patients paying full cost ...	212	25·1	82 10 5	910 17 1
Partial payments ...	531	62·94	272 11 10	1,219 15 0
Free ...	101	11·96	—	—
Insurance ...	—	—	198 6 11	1 1 0
Total ...	844	100	£553 9 2	£2,131 13 1

Road Traffic Act Cases : Nine accounts issued for £60 14s. 5d.

Cases dealt with by Welfare Officer : 156.

Sons : Free, 106 ; part payment, 119.

Paid to Almoner, £128 9s. 3d. Account issued for £43 9s. 5d.

Cases brought forward from 1937 : Paid to Almoner £491 5s. 5d.

*Cases admitted through Hospital Contributory Schemes.*

Name	No. of cases
Bristol Medical Institutions ...	342
Bristol Aeroplane Co. ...	137
Bristol Tramway Co. ...	45
National Smelting Co. ...	27
W. D. & H. O. Wills ...	23
Bristol Corporation ...	19
Bristol Gas Co. ...	14
Mardon Son & Hall ...	12
Amalgamated Society of Woodworkers ...	11
Electricity Department ...	8
Bristol Co-operative Society ...	5
H. J. Packer & Co. ...	5
Redcliff Wharf ...	4
J. S. Fry & Sons ...	4
Public Health Department ...	4
E. S. & A. Robinson ...	3
Paulton & District ...	2
J. Lysaght Ltd. ...	2
Co-operative Wholesale Society ...	2
Ashton Containers Ltd. ...	1
Birmingham ...	1
Blandford & District ...	1
C. Hill ...	1
Edwards & Ringer ...	1
Franklyn, Davey & Co. ...	1
Gardener, Son & Hall ...	1
Hill's Dockyard ...	1
Metal Agencies Co. ...	1
North Wilts ...	1
Strachan & Henshaw ...	1
Thrissell Engineering Co. ...	1

Total ... 681

1938

## **REPORTS**

OF THE

### **Visiting Medical Officers**

#### **BABIES' HOME, DOWNEND**

Greta Hartley, M.D., M.M.

Matron      •      Miss M. Sanders.

---

#### **RESIDENTIAL NURSERY BRUNSWICK SQUARE**

A. Alison Craig, M.B., B.S., D.P.H., D.C.H.

Sister in charge      •      Miss J. Ash.

---

Institutions administered by the Health Committee.



## BABIES' HOME.

### *Admissions and discharges.*

Type of Case.	Remaining from 1937	Admitted 1938	Discharged 1938	Remaining 1938
<i>M.O.H. cases—</i> .. ..	7	13	15	5
Prematurity .. ..	4	1	5	—
Marasmus (infants) .. ..	—	7	4	3
Malnutrition (toddlers) .. ..	3	2	5	—
Recurrent chest trouble .. ..	—	1	—	1
Marasmus with cleft palate .. ..	—	1	—	1
For observation .. ..	—	1	1	—
<i>P.A.C. cases :</i>				
Destitute, deserted children, etc. .. ..	52	37	35	54

Throughout 1938 the Babies Home has been constantly full, extra emergency cots being often in use ; but, owing to the large number of destitute children staying for long periods, the number of new admissions has again decreased.

Thirty-seven children were admitted through the public assistance committee, eight of these being much below the normal physical standard. On the whole, however, the general condition of all children on admission was definitely better than in former years.

The 13 cases admitted through the medical officer of health on medical grounds made good recoveries, the average length of stay needed for a satisfactory state to be obtained being 3—4 months for an infant, and 4—6 weeks for a toddler ; in no case is relapse known to have occurred after discharge.

Extra accommodation for this type of case is urgently required as many cases had to be refused owing to lack of beds, and numerous cases attending clinics would be saved long periods of ill health by temporary care of this kind.

The general health of the children in the Home has been good throughout the year, and, as in 1937, as far as possible all cases of illness have been dealt with in the Home. Four cases only were transferred to Southmead Hospital (acute pneumonia, two ; acute enteritis, two) the cases of enteritis being transferred chiefly for the safety of the rest of the children, isolation accommodation in the Home being still inadequate.

### *Infectious diseases.*

During 1938 a mild epidemic of chickenpox occurred, and ten cases of scarlet fever—the outbreak in each case remaining limited to the groups of children in which they originated ; all the children made complete recoveries.

### *Nursery Nurses Training College.*

Ten pupils completed their training during 1938, and all of them were accepted for posts on the staff of the Bristol Corporation at the Day Nursery, Night Nursery or Babies Home, two leaving later

to go to private posts. Thirteen pupil nursery nurses commenced training, three not staying to complete the course.

Four pupils entered for the elementary examination of the National Society of Day Nurseries and three were successful. Five pupils entered for the final examination and all were successful.

---

### RESIDENTIAL NURSERY, BRUNSWICK SQUARE.

The Brunswick Square Residential Nursery was opened on March 14th, 1938 for the reception, for short periods, of children under five years of age, when care cannot temporarily be undertaken at home. The principal reasons for admissions are that the mother is being confined or is ill, at home or in an institution, or that she is temporarily at work.

The number of cots is 24; eight for infants and 16 for children from one to five years. The number of children admitted from March 14th to December 31st, 1938 was as follows:—

Mother confined	41	—average duration of stay	4½ weeks
Mother ill	32	„ „ „	7½ „
Mother at work	13	„ „ „	13 „

Of these 84 were discharged home in a satisfactory condition, and two were transferred to hospital for an acute infection for which treatment could not be undertaken in the nursery.

Twelve illegitimate children were admitted for an average period of four months. Of these five were finally discharged to their mothers, two to foster-mothers, three to permanent institutions and two to hospital for further treatment.

In addition, five children were admitted for health reasons, of whom two were discharged home in a satisfactory condition and three transferred to hospital for further treatment.

The cots were kept regularly occupied and there was a constant demand for such accommodation.

---

In addition to these two institutions, a day nursery is provided at the Central Health Clinic (see page 49).



1938

**REPORTS OF THE  
Medical Officers**

**STAPLETON INSTITUTION**

S. Datta, M.D., Ch.B.

**EASTVILLE INSTITUTION**

J. A. Lanson Roberts, M.B., Ch.B.

---

Institutions administered by the Public Assistance Committee.



## STAPLETON INSTITUTION.

## REPORT FOR 1938.

1937	Admissions, discharges and deaths.				1938
888	Patients resident on 31st December	..	..	..	854
539	Certified under Lunacy Acts	..	..	..	527
143	Certified under Mental Deficiency Acts	..	..	..	146
206	Not certified	..	..	..	181
531	Admissions	..	..	..	454
382	Discharges	..	..	..	347
205	To Bristol Mental Hospital	..	..	..	201
84	To other institutions	..	..	..	63
93	Relieved or removed	..	..	..	83
176	Deaths	..	..	..	141
91	Senility with hypostatic congestion of the lungs, etc.	..	..	..	87
43	Cerebral vascular diseases	..	..	..	21
11	Acute respiratory conditions	..	..	..	15
5	Carcinoma	..	..	..	2
26	Other causes	..	..	..	16

*Accommodation.*

Overcrowding in the day rooms reported last year is alleviated only to a slight extent by the reduction in the number of resident patients and the reduced number of admissions during the period.

*Nursing and medical attention of the patients.*

The Management Sub-Committee have had under consideration a strong report from the Board of Control, which suggests the necessity of additional medical staff, pointing out the inadequacy of having one medical officer for a population of nearly 900 patients, and the necessity of giving recognised training to the nursing staff. It is hoped that the recommendation of the Board of Control will be put into operation.

*Training and employment of patients.*

Patients are occupied in boot-repairing, tailoring, baking, laundry, etc., as well as domestic work, farm work and other miscellaneous occupations. The figures of employed and unemployed are as follows :—

	Male.	Female.	Total.
Total employed	... 197	133	330
Not employed	... 165	359	524
Total in residence	... 362	492	854

The value of occupation therapy for mental patients of all grades has been pointed out to the Committee and the need for the employment of an occupation officer has been stressed in the above mentioned report of the Board of Control.

*Infectious diseases.*

There has been a complete absence of dysenteric infection for another year. To what extent this immunity is attributable to the use of oral vaccination by bilicaccine according to the method of *Besredka* during the past two years cannot yet be indicated.

Cases of infectious diseases notified during the year were diphtheria (1), erysipelas (3) and tuberculosis (2).

## EASTVILLE INSTITUTION.

## REPORT FOR 1938.

Table A.

1937	Admissions and discharges.				1938
	Admissions to sick wards from :				
355	—other parts of institution	...	...		379
722	—casual wards and outside	...	...		715
1,077	Total	...	...	...	1,094
	Discharges from sick wards to :				
457	—other parts of institution	...	...		527
2	—Ham Green Hospital	...	...		4
89	—Southmead Hospital	...	...		76
67	—Stapleton Institution	...	...		38
268	—Outside	...	...	...	204
2	—Removals	...	...	...	—
885	Total	...	...	...	849
199	Deaths	...	...	...	242

During 1938, 1,031 persons were admitted to the institution, 63 more than last year ; 1,094 persons were admitted to the sick wards, (including 715 direct), the total comprising 659 males and 435 females. Admissions to the male sick wards increased from 631 to 659 and admissions to the female sick wards decreased from 446 to 435, a total increase of 17 admissions. There were 242 deaths in the institution during the year, the average age at death being 75·9 years.

The sick wards contain 208 beds of which an average of 189 have been occupied.

From the able-bodied section of the institution 976 male and 355 female cases have been given treatment (other than treatment in the sick wards), and 198 males and 181 females have been admitted to the sick wards.

Eight babies and seven mothers were admitted during 1938, five babies with mothers from Southmead Hospital, and three babies and two mothers from outside. Two babies were discharged without their mothers to the Children's Homes, one baby to the Day and Night Nursery, and two babies and one mother to Southmead Hospital.

The disease groups of discharges and deaths are given in Tables B and C.

*Table B.*

1937	Discharges.	1938
88	Influenza ... ..	42
4	Tuberculosis (pulmonary) ... ..	6
5	"    (non-pulmonary) ... ..	1
9	Malignant disease ... ..	10
8	Rheumatism (acute including chorea) ... ..	3
4	"    (non-articular manifestations of so-called "rheumatism") ... ..	2
6	"    (chronic arthritis) ... ..	11
2	Venereal disease ... ..	2
34	Senile dementia ... ..	38
95	Senile decay ... ..	84
83	Disease of the nervous system and sense organs	76
145	"    "    respiratory system ... ..	108
167	"    "    circulatory system ... ..	202
16	"    "    digestive system ... ..	22
36	"    "    genito-urinary system ... ..	46
116	"    "    skin ... ..	94
67	Other diseases ... ..	102
885	Total ... ..	849

*Table C.*

1937	Cause of death.	1938
79	Senility ... ..	70
8	Malignant disease ... ..	16
6	Acute illness ... ..	1
28	Disease of the nervous system ... ..	33
44	Disease of the respiratory system ... ..	41
18	Disease of the circulatory system ... ..	59
5	Disease of the genito-urinary system ... ..	6
11	Other diseases ... ..	16
199	Total ... ..	242

### *Casuals.*

During 1938, 339 casuals were medically examined at the monthly examinations, and in addition 363 casuals were seen by the medical officer for various complaints, an increase of 49 compared with the number treated in 1937. The number of casuals requiring admission to city institutions and hospitals was 151, and were dealt with by

transfer to Eastville (137), Stapleton (9) and Southmead Hospital (5) for the reasons stated in the following table :—

*Table D.*

1937	Transfers from casual wards to city hospitals and institutions.					1938
20	Aged and infirm	...	...	...	...	36
24	Skin conditions	...	...	...	...	33
9	Septic feet	...	...	...	...	5
7	Abscesses and septic conditions	...	...	...	...	6
7	Ulcerated legs and varicose conditions	...	...	...	...	2
2	Venereal disease	...	...	...	...	2
7	Cardiac disease	...	...	...	...	3
18	Chest conditions	...	...	...	...	11
7	Rheumatism	...	...	...	...	5
5	Influenza	...	...	...	...	13
3	Malignant disease	...	...	...	...	2
10	Mental disease...	...	...	...	...	11
33	Other diseases	...	...	...	...	22
152	Total	...	...	...	...	151





1938

**REPORTS OF THE  
Joint Institution and School  
DENTAL SURGEONS**

---

**DENTAL WORK IN CITY HOSPITALS  
AND CLINICS**

---

Hanbury Hazell, L.D.S., R.C.S. (Eng.)

J. Donald Rees, L.D.S., R.C.S. (Eng.)

## DENTAL TREATMENT.

## REPORT FOR 1938.

	Health centres.			Hospitals and Sanatoria	Public Assistance institutions	Hortham M.D. Colony	Total
	Expectant mothers	Nursing mothers	Pre-school children				
Total attendances ..	717	1,584	2,288	792	521	497	6,399
Total cases treated ..	217	531	1,350	Not available.			—
Extractions—							
temporary ..	—	—	4,632	319	1	18	4,970
permanent ..	1,856	3,708	—	833	590	435	7,422
Anaesthetics—							
local ..	—	442	36	190	224	280	1,172
general ..	397	855	1,859	253	51	—	3,415
Scalings, dressings and other operations	553	139	353	333	263	293	1,944
Fillings—							
temporary ..	—	—	332	6	—	1	339
permanent ..	41	142	—	44	1	17	245
Dentures supplied ..	211		—	39	21	—	271

The joint dental surgeons are whole-time officers employed by the Corporation for dental work in city hospitals and institutions, health centres and clinics.

*Report by Mr. Hazell.*

Dental inspection and treatment during the year have continued, as formerly, to supply the needs, sometimes very urgent, of patients in the city hospitals, sanatoria and institutions as well as for maternity and child welfare cases and at Hortham Colony.

The dental work has been more than maintained and mothers are eager to take advantage of the treatment and advice provided for them and their children but still require convincing of the benefit of conservative and preventive treatment. The clearance of all dental sepsis is advocated in all medical and surgical cases and undertaken before a general surgical operation is begun if possible. Gastric and rheumatic cases have shown great improvement following dental treatment at Southmead Hospital. Treatment is carried out at Ham Green Sanatorium as formerly by a weekly visit, when walking patients and bed cases are seen. At present no adequate gas anaesthetic apparatus is available at Ham Green and so the ideal anaesthetic (nitrous oxide and oxygen) for these patients is unobtainable. At Hortham Colony patients are referred for treatment by the medical superintendent and are treated each week. Here, as at Stapleton Institution, apart from urgent casual cases, an endeavour is made to see each patient at least once during the year. New admissions are dentally inspected as soon as possible after arrival. The dental surgery at Stapleton Institution has been fitted with a pedestal type spittoon with running water and a modern washbasin with hot and cold running water installed. These are much appreciated as the pails, bowls, receivers, etc., can now be

dispensed with. All children at the Cottage Homes are inspected during the year and treatment for those requiring it is carried out at Southmead dental clinic, where new arrivals are also seen.

At Eastville Institution no regular visit is made and only cases referred by the medical officer are treated.

I should like to point out that the supply of dentures for patients at the various institutions is still provided from various outside sources.

*Report by Mr. Rees.*

Attendances throughout the year at maternity and child welfare sessions have been good. Particular dental care is given to the expectant mother. The general procedure is to eliminate gross dental sepsis (two or three extractions per visit—under gas and oxygen anaesthesia) as quickly as possible—subsequent treatment to be carried out two or three months after confinement.

The new McKesson portable gas and oxygen apparatus (American machines—used extensively in all U.S.A. hospitals and clinics) was acquired towards the end of the year. This machine has proved to be perfect for producing smooth and safe anaesthesias. The anaesthetist reports that mothers have praised the ease and comfort of the nitrous oxide and oxygen administrations by use of the new apparatus.

The very few post extraction haemorrhage cases were successfully treated with snake venom.

“Other operations” for temporary teeth (the pre-school child) consist entirely of applications of silver nitrate (the silver nitrate reduction technique of the Eastman Dental Clinic, London) to cavities from which gross decay has been removed and affected parts made self-cleansing by the use of carborundum stones. Authorities state that this method for the conservation of deciduous teeth gives better results than that of inserting filling material.

Full use was made of the X-ray department for dental skiagrams in selected cases.

The dental condition of patients at Frenchay Park Sanatorium remains good. Emergency dental cases have been few; a great number of the patients having previously received dental care at the various school clinics. Discharged cases are ‘followed up’ at the dental clinics. The children prefer gas administration to the use of local anaesthesia.





1938

**REPORT**

OF THE

**Meteorologist**

H. H. Harding, F.R.Met.Soc.

ON THE

**WEATHER OF 1938**

---

*Observation Stations :*

Frampton Cotterell—Mr. H. H. Harding.

S. Andrew's Park, Bishopston—Mr. H. Vicars Webb.

# METEOROLOGICAL OBSERVATIONS.

## REPORT FOR 1938.

### General Observations.

Mean pressure at 9 a.m., G.M.T. (corrected)...	30.001	inches.
Departure from average (25 years) ...	+0.049	inch.
Greatest pressure at 9 a.m. ...	30.750	ins. on April 11th
Least pressure at 9 a.m. ...	28.805	" " Jan. 10th.
Total rainfall at Bishopston (St. Andrew's Pk.)	34.08	"
Departure from average ...	-1.01	"
Number of <i>rainy days</i> ...	184.	
Heaviest rainfall in 24 hours ...	1.12	" " Oct. 4th.
Total rainfall at Frampton Cotterell ...	30.68	"
Departure from average (25 years) ...	-0.91	"
Number of <i>rainy days</i> ...	175.	
Departure from average (25 years)...	-9.	
Days with 0.04 in. or more ...	129.	
Days with less than 0.04 in. ...	46.	
Heaviest rainfall in 24 hours ...	0.99	" " Oct. 3rd.
Mean humidity at 9 a.m. ...	84.97%	
Mean temperature (max. & min.) ...	50.8	degrees.
Departure from average (25 years) ...	+1.6	degree.
Maximum temperature in screen ...	83.8	degrees on Aug. 1st.
Minimum temperature in screen ...	19.2	" " Dec. 20th.
Minimum temperature on grass ...	13.6	" " Dec. 21st
Mean of warmest day ...	71.2	" " Aug. 1st.
Mean of coldest day ...	23.4	" " Dec. 20th.
Hours of <i>bright sunshine</i> ...	1486.5.	
Departure from average (25 years) ...	-50.	
Days of <i>bright sunshine</i> ...	107.	
Days entirely overcast ...	59.	
Days with fog observed ...	36.	
Days with thunder observed ...	13.	
Days with snow ...	14.	
Number of frosts in screen ...	50.	
Number of frosts on grass ...	92.	

For the first time since 1931, although entirely without sunshine, New Year's Day gave no rain; but apart from the 3rd and 17th, each January day following brought more or less. The month, indeed, proved almost an exact replica of its namesake a year ago both with regard to its rainfall, sunshine and warmth. Its rainfall, however, was heavier, its sunshine somewhat less, and its warmth greater. This last feature has only been exceeded for the month upon three occasions since 1891. These were:

		Mean maximum	Mean minimum	Mean of month
1898	..	48.2 degrees	40.6 degrees	44.4 degrees
1916	..	50.0 "	42.0 "	46.0 "
1921	..	49.8 "	41.2 "	45.5 "

Although, taken as a whole, these months were warmer, in one respect the month this year is unique. Only once did the protected thermometer fall to freezing point—a reading of 32 degrees on the

11th. This is absolutely unprecedented for January, and my previous lowest record is 29·7 degrees on the 21st in 1930. An unusual feature of the period was several displays of Aurora, one of which visible over the whole of Southern England during the evening of the 25th, was the most brilliant for many years past.

*February* opened with a westerly gale and squalls of rain and hail, but from then to the 25th rain only fell upon three days. The dry weather was at first accompanied by a high temperature, but subsequently colder conditions became general. The last few days were wet and mild.

Then followed the warmest and most spring-like *March* of the century, to find a comparison to which one must look back to 1893. Its mean temperature exceeds that of any previous March with the outstanding feature that on no single occasion was a less maximum than 50 degrees recorded ; while 60 degrees and upwards occurred on no less than nine days.

It is seldom that any month in its weather brings so many unusual features as did *April* and none of recent years has provided so many records. These for the century at least comprise six which are as follows :—

Total rainfall ..	0·11 inch.	Previous record	0·15 inch in 1912.
Rainy days ..	4.	„ „	9 in 1912
Minimum temperature	24·7 degrees on 19th.	„ „	25·7 degrees on 30th in 1927.
Unbroken series of frosts ..	13 (8th to 20th inclusive).		
Previous .. ..	9 (18th to 26th in 1908).		
Mean pressure (9 a.m.) ..	30·307 ins.	Previous record	30·182 ins. in 1912.

and lastly, pressure at 9 a.m. exceeded 30 inches every day, a record for any month of the year.

In spite of the many frosts, the excess of sunshine gave the month a warmth by day well above the average ; but at night the cold was below that of any of the three preceding months, and no less than 8 degrees below that of April in 1937.

Last season *May* gave almost perfect weather, no frost whatever, and long periods of sunshine throughout its opening and closing days. This season, its early days were sunless and for the whole of the last week the sunny hours did not equal that of the 31st the year before. Alas, against the clean sheet of 1937 in regard to frost, more of these dreaded visitations were experienced than in any previous May this century. Against these unwelcome features may be credited the closing of the most severe spring drought for many years past. In regard to this the following figures may be of interest. They show the driest four monthly periods (February to May) in the Bristol and district since 1852 :

		1890.	1896.	1921.	1929.	1938.
		ins.	ins.	ins.	ins.	ins.
February ..	0·58	0·51	0·31	1·22	1·02	
March ..	1·11	3·06	1·49	0·33	0·29	
April ..	1·14	0·82	0·87	0·85	0·11	
May ..	1·87	0·24	1·75	2·06	1·83	
Totals ..	4·70	4·63	4·42	4·46	3·25	

The opening day of *June* found the whole of our islands under the influence of a cyclonic storm which would be considered severe



for a winter month and was most exceptional for this usually the quietest of the twelve. More or less rain followed to the 11th, then fair and seasonable weather set in and lasted to the 26th. Wet and stormy conditions saw the month out.

*July* began with two successive cold nights with temperatures below 40 degrees. In 1907 there occurred a minimum reading of 39 degrees on the 13th and 17 years later in 1924 one of 38 degrees on the 1st. Two successive minima however below 40 degrees locally are unique and at all events have not previously been experienced locally this century. Such cold could not persist, but, as in 1937, the month brought no really hot weather. In other respects a sharp contrast was shown, the first half being marked by almost daily rainfalls and cloudy skies, following which fair and pleasantly warmer conditions set in to the close.

With the 1st of *August* came the hottest day of the year, and the warmest experienced locally since June 20th, 1936. This—for the year—unusual heat culminated later in the day in a thunderstorm of exceptional violence, and warm humid weather prevailed to the 13th. This resulted in a series of electric storms over the southern districts of our islands with heavy local falls of rain and hail. Of these the most notable was a remarkable downpour equalling 6·40 inches at Torquay on the 4th. In our immediate district, storms occurred on the 1st, 4th, 5th, 8th, 9th, 11th and 12th, but no very exceptional rains were experienced. More normal conditions set in on the 13th but the month remained unsettled throughout and is the wettest August at this station since 1924.

As usually happens, the first half of *September* brought some of the best weather of the season, only four days to the 17th giving measurable rainfalls. Then unsettled conditions returned, and the 30th brought a fall of nearly half-an-inch.

This with those recorded for the first eight days of *October* show the heaviest consecutive rains locally for many years. The daily amounts at this stations were :

Sept. 30th	..	0·47 inch	Oct. 4th	..	0·97 inch
Oct. 1st	..	0·25 "	" 5th	..	0·61 "
" 2nd	..	0·24 "	" 6th	..	0·23 "
" 3rd	..	0·99 "	" 7th	..	0·05 "
			" 8th	..	0·58 "
Total for the nine days			..	4·39 inches.	

Fortunately after the 8th, the rains were moderate and less frequent, but the month proved the wettest locally since July 1936. Apart from its rainfall the month possessed two outstanding features of a more pleasant type. In the first place it gave an excess of sunshine—the first month to do so since April—and secondly no frost of consequence was recorded in the Bristol district.

Remarkable mildness also marked the following month (*November*) and as far as one can gather on no occasion within living memory has November been so warm. Looking back over past records the warmest Novembers locally were as follows :—

1894 :	Mean	46·6 degrees	1908 :	Mean	46·0 degrees
1895 :	"	47·0 "	1913 :	"	46·7 "
1899 :	"	48·5 "	1917 :	"	46·8 "
1900 :	"	46·0 "	1928 :	"	46·3 "
and 1931 : 46·3 degrees.					

## Results of Meteorological Observations during 1938.

Taken at 9 a.m. G.M.T.

Months		January	February	March	April	May	June	July	August	September	October	November	December	Year
PRESSURE	Mean pressure — inches ... ..	29·868	30·263	30·220	30·307	29·938	30·025	29·924	29·969	29·994	29·866	29·803	29·838	30·001
	Departure from average ... ..	—0·125	+0·313	+0·306	+0·393	—0·024	+0·007	—0·045	+0·020	—0·035	—0·071	—0·113	—0·029	+0·049
	Greatest pressure — inches ... ..	30·484 (3rd)	30·638 (11th)	30·702 (4th)	30·750 (11th)	30·307 (22nd)	30·346 (16th)	30·204 (17th)	30·243 (1st)	30·277 (10th)	30·295 (20th)	30·396 (15th)	30·470 (25th)	30·750 (April 11)
	Least pressure — inches ... ..	28·805 (10th)	29·499 (1st)	29·675 (21st)	30·028 (30th)	29·503 (27th)	29·631 (27th)	29·395 (8th)	29·470 (19th)	29·506 (20th)	29·255 (4th)	28·888 (23rd)	29·223 (10th)	28·805 (Jan. 10)
RAINFALL	Total rainfall at Bishopston — inches	4·73	1·20	0·31	0·10	2·29	1·87	3·51	3·26	2·47	6·10	4·33	3·91	34·08
	Departure from average — inches ... ..	+1·82	—1·27	—2·12	—2·22	+0·09	—0·69	+0·68	—0·42	—0·39	+2·12	+1·00	+0·39	—1·01
	Number of rainy days ... ..	25	6	3	4	13	13	16	20	16	23	22	23	184
	Heaviest fall in 24 hours — inches ...	0·88 (8th)	0·41 (25th)	0·25 (24th)	0·03 (22nd)	0·47 (31st)	0·43 (10th)	0·72 (14th)	0·62 (28th)	0·88 (18th)	1·12 (4th)	0·63 (25th)	0·75 (9th)	1·12 (Oct. 4)
	Total fall at Frampton Cotterell — inches	4·21	1·02	0·29	0·11	1·82	1·17	2·76	4·32	2·16	5·45	3·78	3·59	30·68
	Departure from average — inches ... ..	+1·39	—1·20	—1·87	—1·77	—0·24	—0·97	—0·18	+1·15	—0·25	+2·15	+1·02	—0·14	—0·91
	Heaviest fall in 24 hours — inches ...	1·78 (8th)	0·37 (25th)	0·21 (24th)	0·04 (2 & 23)	0·41 (31st)	0·27 (28th)	0·63 (14th)	0·86 (10th)	0·71 (18th)	0·99 (3rd)	0·65 (22nd)	0·63 (9th)	0·99 (Oct. 3)
	Number of rainy days ... ..	25	8	4	4	11	13	13	18	15	21	20	23	175
	Departure from average — inches ... ..	+7	—6·5	—12	—10·5	—3	+0·5	—1·5	+2	+2·5	+4·5	+4·5	+3·5	—9
TEMPERATURE	Mean temperature —degrees ...	42·9	41·55	48·05	46·6	52·2	59·2	60·2	61·55	57·0	51·4	49·25	39·82	50·8
	Departure from average —degrees ...	+3·1	+1·45	+5·7	+0·2	—1·26	+1·6	—1·2	+1·85	+1·1	+1·4	+6·6	—1·0	+1·6
	Maximum in shade —degrees ...	53·5 (16th)	58·8 (25th)	63·7 (23rd)	66·6 (7th)	73·9 (22nd)	79·6 (17th)	78·6 (23rd)	83·8 (1st)	78·9 (12th)	63·1 (16th)	61·1 (12th)	54·8 (4th)	83·8 (Aug. 1)
	Minimum in screen —degrees ...	31·3 (1st)	28·6 (15th)	25·1 (8th)	24·7 (19th)	30·8 (20th)	40·8 (11th)	39·6 (2nd)	38·2 (30th)	34·9 (3rd)	34·8 (29th)	29·7 (27th)	19·2 (20th)	19·2 (Dec. 20)
	Extreme range —degrees ...	22·2	39·2	38·6	41·9	43·1	38·8	39·0	45·6	44·0	28·3	31·4	35·6	64·6
	Minimum on grass —degrees ...	24 (11 & 27)	18 (11th)	18·5 (6th)	19·5 (18th)	25 (20th)	?	?	31 (30th)	31·5 (3rd)	27·5 (31st)	21·5 (27th)	13·5 (21st)	13·5 (Dec. 21)
SUNSHINE, HUMIDITY, &c.	Hours of sunshine (estimated) ... ..	52	76·5	174	202	143	189	121·5	134·5	133	122	64	75	1486·5
	Departure from average ... ..	—10·1	—2·4	+60·4	+56	—43·1	—2·6	—62·2	—36·2	—17·8	+10·6	—16·6	+14	—50
	Days of sunshine ... ..	2	4	14	19	8	13	6	8	9	12	5	7	107
	Days overcast ... ..	9	9	1	3	5	2	4	3	2	3	9	9	59
	Mean humidity ... ..	91·9%	85·9%	87%	74·6%	72·6%	76%	83·1%	86·4%	90·4%	92·7%	92·7%	86·3%	84·97%
	Days with fog ... ..	1	1	8	2	0	0	0	5	4	6	4	5	36
	Days with thunder ... ..	0	0	0	0	1	1	3	8	1	1	0	1	16
	Days lightning only ... ..	0	0	0	0	0	0	1	0	0	1	0	0	2
	No. of frosts in screen ... ..	1	8	8	14	4	0	0	0	0	0	3	12	50
	" " on grass ... ..	11	12	12	18	5	0	0	0	0	4	10	20	92





Of these it is interesting to note that very severe winters followed those of 1894 and 1928 and cold winters those of 1899, 1900 and 1908, the remaining seasons being of average character. More seasonable weather set in towards the close of the month and the night following the 26th brought the first real frost of the season.

With *December* came a return to warmth, this continuing until half the month had passed. Then followed one of the most sudden changes of recent years, the 9 a.m. temperature of the 18th which was 25·8 degrees showing a fall of no less than 20 degrees since the same time the previous day and from then onwards to the 22nd frost was severe and continuous. At first the cold coincided with a strong and a bitter east wind. This moderated with the 20th, and after one of the most considerable snowfalls of recent years locally on the 21st and 22nd, the temperature rose considerably. Moderate frost however continued to the 26th and the 25th proved the coldest Christmas Day since 1892, the respective temperatures being as follows :

1892 :	Min. 23 degrees	Max. 30 degrees	Mean 26·5 degrees
1938	Min. 32 „	Max. 33 „	Mean 32·5 „

A further fall of snow on Christmas night was succeeded by rain, and the month and year closed with a return to milder conditions.

From an agricultural point of view the season was one of contradictions, but was far more advantageous than at one time appeared possible ; the plentiful rains and even temperatures of the late summer and autumn doing much to compensate for the long spring drought and the many frosts of April and May. For the fruit grower, however, the year was disastrous and apart from sheltered situations the April frosts entirely destroyed what had been a most promising outlook.





1938

**REPORT OF THE  
PREVENTIVE MEDICINE DEPARTMENT,  
UNIVERSITY OF BRISTOL**

---

**Joint Report of the Bacteriological and Clinical Pathological Sections  
for the year 1938.**

---

K. E. Cooper, B.Sc., Ph.D., L.R.C.P., M.R.C.S., A.I.C.,  
Senior Bacteriologist.

Dorothy Woodman, M.D., M.Sc., M.R.C.S., L.R.C.P.,  
Senior Pathologist.

---

Department of Preventive Medicine,  
Canyng Hall, Whatley Road,  
Bristol, 8.

## STAFF, 1938.

---

### Professor of Preventive Medicine and Medical Officer of Health :

R. H. Parry, M.D., B.Sc., M.R.C.P., D.P.H.

### Bacteriology.

#### *Senior Bacteriologist :*

J. D. A. Gray, M.B., Ch.B., B.Sc., F.R.C.P.E., D.P.H. (to 30th September).

K. E. Cooper, B.Sc., Ph.D., L.R.C.P., M.R.C.S., A.I.C. (from 1st November).

#### *Junior Bacteriologists :*

Jean Wiseman, B.Sc.

Joan Davies, B.Sc. (from 1st July).

### Clinical Pathology.

#### *Senior Pathologist :*

Doris M. Stone, M.D., D.P.H. (to 30th April).

Dorothy Woodman, M.D., M.Sc., M.R.C.S., L.R.C.P. (from 1st June).

#### *Junior Pathologist.*

F. J. W. Lewis, M.B., Ch.B.

#### *Serologist :*

F. Nicholls.

#### *Technical staff :*

G. D. Harber

H. J. Washer

W. Rowney

E. D. M. Moore

T. A. Walters

K. G. Moreman

M. J. Anderson

L. G. Hopes

---

<i>Secretary</i>	-	-	-	Bessie Bell, B.A.
<i>Assistant Secretary</i>	-	-	-	Marjorie E. Rumins
<i>Junior Clerk</i>	-	-	-	Lilian M. Matthews

## Department of Preventive Medicine.

Table 1.—Pathological and bacteriological examinations, 1938.

Nature of specimen examined.					Number
Diphtheria :	Swabs—primary	...	...	...	3,151
	—repeat	...	...	...	14,244
	Virulence tests	...	...	...	2
Special examinations :					
	Haemolytic streptococci	...	...	...	617
	Other swabs	...	...	...	93
Sputum :	Tuberculosis	...	...	...	1,758
	Other sputa	...	...	...	32
Blood :	Counts, white and differential	...	...	...	343
	Chemical	...	...	...	212
	— Bacteriological	...	...	...	57
	— Serological (including typhus)	...	...	...	13
	— Enteric	...	...	...	57
	Van den Bergh	...	...	...	10
	Blood grouping	...	...	...	24
	Cross agglutination	...	...	...	1
	Sedimentation	...	...	...	118
	— Dysentery	...	...	...	1
	— Br. abortus	...	...	...	28
	Measles serum	...	...	...	4
	Fragility	...	...	...	2
	Smear for malaria	...	...	...	2
	Platelet counts	...	...	...	1
	Reticulocyte counts	...	...	...	7
	For fractional test meal	...	...	...	514
Stomach contents :	General	...	...	...	46
	Occult blood	...	...	...	102
	— Enteric	...	...	...	84
	— Dysentery	...	...	...	482
	— Tuberculosis	...	...	...	12
	— Fat estimation	...	...	...	6
	— Food poisoning	...	...	...	15
Urine :	— General	...	...	...	510
	— Tuberculosis	...	...	...	39
	— Inoculation	...	...	...	26
	— Enteric	...	...	...	42
	— Urea concentration	...	...	...	40
	— Chemical	...	...	...	7
	— Pregnancy	...	...	...	40
Pus and swabs :	Bile	...	...	...	3
	General	...	...	...	192
	General	...	...	...	85
Cerebro-spinal fluid :	General	...	...	...	36
Pleural and other fluid :	General	...	...	...	126
Tissues :	Human	...	...	...	2
	Animal	...	...	...	1
Milks :	Post-mortem	...	...	...	982
	Tuberculosis	...	...	...	597
	Accredited	...	...	...	609
	Pasteurised (bacteriological)	...	...	...	218
	Pasteurised (schools) biochemical	...	...	...	234
	Pasteurised (plants) biochemical	...	...	...	19
	Br. abortus	...	...	...	68
	Additional abortus	...	...	...	9
	Dirt and taint	...	...	...	20
	Typhoid	...	...	...	



Table 1 (continued).

*Pathological and bacteriological examinations, 1938.*

Nature of specimen examined					Number	
Milks :		Empty milk bottles	...	...	25	
		Churn swillings	...	...	19	
		Ice creams	...	...	10	
		Straws	...	...	5	
Waters :	✓	...	...	...	237	
Rats :	mus...	...	...	...	1,102	
Venereal Disease :		Wassermann	...	...	3,008	
		Complement fixation for gonorrhoea			1,059	
		Cell count	...	...	14	
		Chemical	...	...	14	
		Lange	...	...	30	
		Films	...	...	5,421	
		Cultures	...	...	848	
		Kahn	...	...	2,496	
		G. C. vaccines	...	...	18	
		Blood for count and sulphaemo-globinaemia)	...	...	69	
	Various :	misc	Foods	...	...	37
			Abattoir specimens	...	...	27
			Inoculation diphtheria toxin	...	...	2
			Vomit	...	...	3
			Bile	...	...	1
		Cotton and oil	...	...	1	
		Worms and insects	...	...	2	
		Liquid for pickling pelts	...	...	1	
		Scale for ringworm	...	...	3	
		Culture plate	...	...	1	
		Fluid for hydatid disease	...	...	2	
		Blood, sp, minus infection	...	...	1	
		Films from finger	...	...	1	
	Postmortems for Southmead	...	...	32		
	Vaccine	...	...	1		

**Bacteriology.**

The year 1938 has seen an increase in the number of specimens examined by the department in almost all types of examination made. The difficulty of dealing adequately with this increased bulk of material has been increased by unavoidable short staffing of the department during the changes in personnel which have taken place. Great credit is due to those members of the staff who successfully surmounted these difficulties and carried out a large amount of work in difficult circumstances. My own appointment as successor to Dr. J. D. Allan Gray did not commence until November, thus in this report I must speak largely of work which has been carried out by others.

*Diphtheria.*

Investigations for diphtheria are over 6,000 more than the previous year, chiefly owing to the fact that during the latter months of the year the disease reached epidemic proportions. In recent years the methods used for the diagnosis of diphtheria have been

multiplied and the older methods which are in use in most laboratories in the country have been shown to be inaccurate in certain cases, unless supplemented by other types of examination. The need for the use of these modern methods was recognised by my predecessor, Dr. Gray, in 1936 (see Annual Report, 1936, p. 7), but with the present staff these supplementary investigations could only be pursued in a limited number of cases. Arrangements have now been made to increase the staff of the department so that it will be possible to use to the full the methods available for the diagnosis of diphtheria. It is hoped that the increased accuracy resulting will enable outbreaks of diphtheria to be satisfactorily controlled, and that the number of patients in Ham Green may be reduced, owing to the elimination of false positives.

On 1st December a meeting of general practitioners was held to discuss the methods available to control the epidemic. The methods of prevention, diagnosis and treatment available were presented by Professor Parry, Dr. Peters and myself. The newer methods to be used in the laboratory were explained and discussed, and the modifications required to obtain maximum collaboration with the general practitioners decided. These changes will be introduced as early as possible in 1939.

#### *Haemolytic streptococci.*

Over five times as many swabs have been examined for these organisms as in the previous year. This increase was not due to any particular outbreak of infection but largely to the increased importance of knowing whether this organism is present in view of the possibility of successful treatment by sulphonamide.

#### *Water analyses.*

The bacteriological control of the purity of water supplies was shown to be of paramount importance in the report on the Croydon typhoid epidemic. The number of analyses carried out for the city of Bristol has increased to 237 this year as compared with 61 last year and 35 the year before. The results of these analyses which are capable of classification are shown in Table 2. It will be seen from these results that those parts of the city supplied by the main supply, or by the Sherborne spring, receive water of a high standard of purity as judged by the absence of coli-aerogenes organisms or by the low counts. Those neighbourhoods supplied by Somerset or Gloucester main supplies are satisfactory also, but there exist within the city boundary small isolated groups of houses deriving their water from wells, most of which are highly unsatisfactory. The possibility of infection from such waters is present, and though, in such an event, the danger of an epidemic is minimised by the small number of people receiving any single supply, this danger cannot be ignored. Some of the houses concerned are farms, and the use of these well waters for washing dairy utensils is very undesirable. Some of these wells are near the river and pollution may be arising from that source.

Table 2.—Number of water analyses for coli-aerogenes.

Coli-aerogenes, in 100 c.c.	Nil	1—10	10— 100	Above 100	Total
City water ...	48	4	—	—	52
South city (Sherborne) ...	23	2	—	—	25
Hospitals supplied by					
Gloucester water ...	11	9	—	—	20
Somerset water ...	7	3	—	—	10
Bristol wells ...	4	4	12	34	54
					161

Number of water analyses showing :	Counts at 37° C. between			Counts at 22° C. between		
	0— 100	100— 1000	Above 1000	0— 200	200— 1000	Above 1000
City water (main supply)	50	2	—	49	3	—
South city (Sherborne)	23	2	—	24	—	1*
Hospitals supplied by						
Gloucester water ...	19	1	—	18	2	—
Somerset water ...	10	—	—	10	—	—
Bristol wells ...	15	19	20	12	14	28
			* Probably an accidental contamination.			

### Examinations of milk.

Examination for tubercle bacilli was made on 957 samples as against 616 the year before. Positive results were found in 65 (6·8%) a percentage not significantly different from previous years.

Graded milks have been tested by the tests and standards specified in the Milk (Special Designations) Order, 1936. In a total of 370 tuberculin tested milks 75 failed to pass either the methylene blue or coliform test or both, i.e., 79·7% passed compared with 72·6% in 1937. Of 222 accredited milks 50 failed to pass, giving a percentage of 77·5% satisfactory as against 74·6% in 1937. This improvement in both classes of milks, coupled with the fact that a larger number of examinations has been made (592 compared with 471 in 1937) is satisfactory.

Pasteurised milks : out of 389 milks tested only 35 failed to comply with the prescribed conditions. Examinations for *B. coli* have not been carried out systematically this year, as they are not prescribed by the 1936 regulations, but it is hoped that during the coming year information regarding the causes of the failures will be obtained by doing counts in parallel with the phosphatase tests carried out by the pathology department.

Table 3.

	Tuberculin Tested Milks.				Accredited Milks.			
	Methylene Blue Reduction test.				Methylene Blue Reduction test.			
	Satisfied.		Not satisfied.		Satisfied		Not satisfied.	
	Coliform test satisfied	Coliform test not satisfied	Coliform test satisfied	Coliform test not satisfied	Coliform test satisfied	Coliform test not satisfied	Coliform test satisfied	Coliform test not satisfied
Jan.	24	4	1	—	12	4	1	1
Feb.	30	2	—	—	15	—	—	—
Mar.	31	2	1	2	29	1	—	—
April	30	2	—	—	3	3	—	—
May	27	1	—	1	24	2	—	—
June	24	1	1	5	13	4	2	1
July	16	6	2	3	6	5	—	3
Aug.	23	2	2	6	5	—	—	4
Sept.	21	10	—	1	10	8	1	2
Oct.	22	4	1	—	24	1	—	1
Nov.	25	3	3	1	14	1	—	—
Dec.	22	7	1	—	17	2	3	—
Totals	295	44	12	19	172	31	7	12

Table 4.—*Pasteurised milks.*

	Complied with prescribed condition.	Failed to comply with prescribed condition.
January ...	29	1
February ...	30	2
March ...	39	—
April ...	30	1
May ...	30	—
June ...	24	3
July ...	34	1
August ...	27	3
September ...	27	2
October ...	28	6
November ...	26	9
December ...	30	7
Totals ...	354	35

*Gonococcal smears and cultures.*

During the year these investigations have been taken over by the bacteriological side of the department, to which they logically belong. The number of smears for the year has increased to 5,421 (1937, 3,065 ; 1936, 2,270) and the cultures made were 848 (1937, 731 ; 1936, 497). The satisfactory cultivation of the gonococcus is a difficult procedure and new methods are being introduced which are known to be more satisfactory. As a result, it is to be expected that the number of cultures examined next year will show an even greater increase.



*Miscellaneous investigations.*

The number of investigations of foodstuffs shows a decrease on the abnormally high number examined the year before, but is similar to that of the previous years. An investigation of an outbreak of dermatitis among steel workers led to an examination of the cotton waste used by the workmen, with the result that as less bacteria were found on dirty oily rags than on clean, a search for an antiseptic was made. One of the lubricating oils used was found to contain a high percentage of an irritant antiseptic.

**Clinical Pathology.**

During the year 1938 the facilities for pathological work at Southmead have been increased. In addition to the attendance there of one of the medical staff of this department to carry out necessary investigations, it was decided to supply a full-time technician to the laboratory at the hospital. He is responsible for assisting at all post-mortem examinations, looking after store supplies, and is also available for any urgent simple investigation required. By this means it has been possible to supply the hospital with a more satisfactory service.

The report of the specimens examined during the year (Table 9) shows an increase in the work which has been done, namely 3,046 specimens as compared with 2,165 specimens investigated during 1937. A similar increase has also occurred in the work actually done at the hospital itself.

One unusual case at the hospital which involved many investigations was described and reported in the *Journal of Pathology and Bacteriology* of this year. It is hoped that with the facilities now available any interesting cases which are admitted to the hospital will be fully investigated from a pathological standpoint.

*Health clinics.*

During 1938 the number of specimens sent up to this laboratory have increased. In addition, the patients themselves have visited the laboratory for certain haematological tests which could not be carried out at the clinic. It is hoped that this co-operation between the public health services and the pathologists will increase so that every case visiting the clinics may have the full services of both the health and pathological medical officers.

*Ham Green.*

At the request of the medical superintendent, two new extensions of the work on the pathological side have been developed. In the first place, this department has arranged for a clinical pathologist to be available three mornings a week to visit the hospital when required in order to carry out certain investigations which can only be performed by actually visiting the patient. In the second place, the department has arranged a skeleton service which can be called on for emergency work at the week-end. By this means it is hoped to increase the co-operation between Ham Green Hospital and the Department of Preventive Medicine.

*Venereal disease.*

The total number of specimens examined for the venereal diseases clinic has risen from 7,594 to 12,977 for the past year. This rise is shown individually by each group of examinations included under this scheme. It is also due to the fact that on each specimen of blood sent, not only a Wassermann reaction is carried out but also the Kahn test. By this method the clinician has a double report and since the Kahn test is an extremely sensitive one, venereal disease may be diagnosed where a negative test by the Wassermann reaction is obtained. This is obviously of importance both in the diagnosis and prevention of the spread of a highly infectious disease which is deleterious to the health of the nation.

As is shown in Table 1 a new series of tests, namely blood counts and examination for sulphoglobinaemia were performed for a time. This was due to a new treatment by sulphonilamide compounds which in the early stages required control by these tests in order to determine the reaction of the patient to the drug.

Since November the bacteriological examination for films and cultures has been handed over to the bacteriological section under Dr. Cooper as it was considered more advisable to place these into the hands of the bacteriologist. To compensate partially for this extra work the section of clinical pathology has taken over the examination of animal tissues which are brought in by the meat inspectors from time to time for histological reports.

*Pasteurised milks.*

The examinations of pasteurised milks as discussed in the 1937 report have been continued during 1938. The large bulk of these are school milks which are collected at any time by the milk inspectors and brought to this department for investigation. Four and sometimes five tests are carried out on each milk to see if it is raw, fully pasteurised, or has been over heated. Of 218 school milks investigated, 73% were found to be fully pasteurised. A few other milks (six in all) purchased by the inspectors from retail shops showed that 33% were fully pasteurised (Table 5). These figures indicate the usefulness of these tests in checking the type of milk which is sold as pasteurised and yet may be under or over heated. It is of interest that in some cases where it has been reported that the milk was over heated, the inspectors studied the temperature charts from the plants and found that over heating for a short space of time was sufficient to be recorded by a change in the chemical tests.

As all the pasteurising plants are still not modern in type, these have been tested from time to time. Eight plants in all have been investigated. The specimens brought to the department consist of a sample of the raw milk, a sample just before discharge from the holder, and a sample after cooling. The majority of these showed that the plants were efficient. Out of interest bacterial counts were carried out on samples of two of the plants and the results showed the decrease in the number of bacteria present where the milk had been adequately heated. (Table 6).

The pasteurisation of milk in Bristol appears to be reaching a good standard. Further work has been carried out on 298 samples. These were investigated to determine the temperature at which the milk had been heated. In addition, bacterial counts were performed on the same samples. The results are given in Table 7 and show that even in the cases where the milk was fully pasteurised or over heated the counts were high. This suggests contamination and it is hoped if time is available to investigate the bottles before the milk is poured into them, to see if these are adequately sterilised.

Two courses of lectures for milk inspectors were held in the department during the year. These proved to be a great success and of help to the inspectors. Some of them provoked a good discussion. It is hoped that in the future more similar lectures can be given in order to promote co-operation between the inspectors and the department concerned with the tests.

A paper on a case of polycythaemia terminating in leucoerythroblastic anaemia was published in the *Journal of Pathology and Bacteriology* in September 1938, by Dr. D. M. Stone (late Senior Pathologist) in collaboration with Dr. Woodman.

Table 5.

	SCHOOL MILKS.				RETAIL MILKS.		
	Fully pasteurised	Not fully pasteurised	Over heated		Fully pasteurised	Not fully pasteurised	Over heated
1.	20	—	18	1.	—	—	2
2.	23	11	6	2.	—	1	—
3.	72	—	—	3.	—	1	—
4.	12	8	1	4.	1	—	—
5.	30	2	—	5.	1	—	—
6.	12	—	1				
7.	2	—	—				

Table 6.—Plants.

	Raw	From holder	After cooling.
1.	6	5 fully pasteurised	5 fully pasteurised
2.	3	1 fully pasteurised	1 not fully pasteurised
		1 not fully pasteurised	2 fully pasteurised
		1 over heated	1 over heated
3.	2	2 fully pasteurised	2 fully pasteurised
4.	1	1 fully pasteurised	1 fully pasteurised
5.	1	1 fully pasteurised	1 fully pasteurised
6.	1	1 fully pasteurised	1 fully pasteurised
7.	2	1 fully pasteurised	1 fully pasteurised
		1 not fully pasteurised	1 not fully pasteurised
8.	2	1 fully pasteurised	1 fully pasteurised.
		1 over heated	1 over heated

Table 7.—Milks—Pasteurisation and Bacteriological Counts.

Pasteurisation Test.	Bacterial Counts.
118 fully pasteurised	satisfactory
130 fully pasteurised	not satisfactory
13 not fully pasteurised	not satisfactory
7 not fully pasteurised	satisfactory
21 over heated	satisfactory
9 over heated	not satisfactory







1938

**REPORT OF THE  
PUBLIC ANALYST**

F. E. Needs, F.I.C.

---

Chemical Division,  
Department of Preventive Medicine,  
Canynge Hall, Clifton, Bristol.

## STAFF, 1938.

---

### *Public Analyst :*

Francis Edwin Needs, F.I.C.

### *Assistant Analysts :*

*Senior :* Frederick Frank Beach, M.A. (Oxon), B.Sc., (Lond.), F.I.C

*Second :* Ivor Dembrey B.Sc. (Bristol), A.I.C.

*Third :* Archibald G. Peacock, B.Sc. (Bristol).

---

### *Chlorination Officer :*

D. Proctor-Sims.

---

### *Laboratory assistants :*

Charles R. Turner

Edwin L. Applegate

Dennis M. Robbins.

---

### *Clerical staff :*

Marjorie E. Rumins

# THE REPORT OF THE PUBLIC ANALYST, OFFICIAL AGRICULTURAL ANALYST AND GAS EXAMINER.

The report is divided into eight parts as follows :—

- Part I Food and Drugs Act.
- Part II Port samples.
- Part III Fertilisers and Feeding Stuffs Act.
- Part IV Water for chemical analysis.
- Part V Sewage, river and subsoil samples.
- Part VI Miscellaneous analyses.
- Part VII Gas Regulation Act.
- Part VIII Atmospheric pollution.

## SUMMARY OF SAMPLES.

*Table 1.*

Food and Drugs Act ... ..	2,139
Food samples from the port ... ..	116
Water for chemical analysis ... ..	378
River water ... ..	203
Sewage and effluents ... ..	461
Soils and subsoil water ... ..	57
Fertilisers and Feeding Stuffs Act ...	27
Rag Flock Act ... ..	4
Health department ... ..	9
Biological material ... ..	27
Public Assistance Committee ... ..	3
Pharmacy and Poisons Act ... ..	26
Agricultural Products Act ... ..	5
Gas Regulation Act ... ..	621
Atmospheric pollution ... ..	24
Miscellaneous ... ..	2
Total ...	4,102

## PART I.

### FOOD AND DRUGS ACT.

During the year, 2,139 samples were submitted for analysis under the Food and Drugs (Adulteration) Act, 1928. This number is 241 more than for the previous year and represents an increase of 12·7 per cent.

During the four complete years since the transference of the department to Canynge Hall was made, the number of samples under this Act has increased by more than 54 per cent.

The population of the city, as estimated by the Registrar-General at the middle of 1938 is 415,500, hence the number of samples per 1,000 persons is 5·15. This figure is well above that for England and Wales in 1937, the number of samples per 1,000 of the population being 3·69.



Table 2 shows the nature and number of samples submitted, with the number reported genuine and the number adulterated.

Table 2.

ARTICLE	Number examined	Number genuine	Number adulterated	Per cent. adulterated
Milk ... ..	1,591	1,483	108	6.79
Skimmed milk ... ..	5	5	0	0
Condensed milk ... ..	4	4	0	0
Cream ... ..	5	5	0	0
Butter ... ..	100	99	1	1.00
Nut cream butter	2	2	0	0
Margarine ... ..	17	17	0	0
Cheese ... ..	11	11	0	0
Lard ... ..	16	16	0	0
Dripping ... ..	16	16	0	0
Cooking fat ... ..	10	10	0	0
Shredded suet ... ..	4	4	0	0
Ice cream ... ..	7	7	0	0
Buttered rolls and bread ... ..	7	7	0	0
Bread ... ..	2	1	1	50.00
Biscuits ... ..	1	1	0	0
Mineral water ... ..	14	14	0	0
Wine ... ..	2	2	0	0
Unfermented cordial	6	6	0	0
Beer ... ..	8	8	0	0
Cider ... ..	17	15	2	11.76
Tea ... ..	21	21	0	0
Coffee and chicory	15	15	0	0
Cocoa ... ..	12	12	0	0
Ground almonds ... ..	4	4	0	0
Dried fruit ... ..	39	39	0	0
French capers ... ..	3	3	0	0
Vinegar ... ..	18	13	5	27.78
Mint sauce ... ..	1	1	0	0
Table jelly ... ..	8	8	0	0
Pepper ... ..	12	12	0	0
Mustard ... ..	10	8	2	20.00
Sausages ... ..	7	7	0	0
Sauces and pickles	4	4	0	0
Drywhite preserva- tive ... ..	1	1	0	0
Sugars ... ..	13	13	0	0
Starchy foods ... ..	50	50	0	0
Spirits ... ..	27	26	1	3.70
Drugs ... ..	49	47	2	4.08
Total ... ..	2,139	2,017	122	5.70

Number of samples examined ... 2,139

„ „ adulterated ... 122

„ „ genuine ... 2,017

Of the 2,139 samples examined, 566 were sealed (having been divided in accordance with the provisions of section eighteen of the Food and Drugs (Adulteration) Act 1928), and 1,573 were unsealed, or informal samples.

Three-quarters of the number of samples were informal, but the saving of time and trouble involved in the collection of these samples, applies only to the method of sampling.

It has been previously pointed out that the amount of analytical work carried out on informal samples is at least equal to, and in a considerable number of cases, much greater than that done on formal samples, chiefly on account of the fact that a larger quantity of the sample is available for an extensive examination.

Comparative figures for adulteration in Bristol for the last five years are given in Table 3.

Table 3.

	1934	1935	1936	1937	1938
Total number of samples ...	1,384	1,576	1,662	1,898	2,139
Per cent. adulterated milk ...	6·83	5·26	5·00	4·40	6·79
Per cent. foods, other than milk	3·26	2·45	4·12	2·68	2·40
Drugs ... ..	11·36	7·81	12·50	0	4·08
Total per cent. adulterated ...	6·07	4·31	4·69	3·85	5·70

The figures for England and Wales for the year 1937 are as follows:

Total adulteration rate ... ..	5·5%
Milk       ,,       ,,       ,,       ,,	7·4%

#### Milk.

Of the 108 samples condemned, three contained added water *and* were also deficient in fat.

Thirty-one samples gave evidence of the addition of water, and 74 were deficient in fat.

Table 4 gives the figures of analysis of those samples condemned for double adulteration.

Table 4.

Number of sample.	Fat %	Non-fatty solids %	Freezing point depression °C	Result
X. 453	2·35	7·15	·456	15·8% added water. 7·0% deficient in fat.
X. 457	2·40	7·50	·489	11·7% added water. 9·3% deficient in fat.
Y. 321	2·65	7·72	·472	9·1% added water. 2·6% deficient in fat.

Table 5 gives the figures for samples containing added water.

Table 5.

Number of sample.	Analytical data.			Result
	Fat	Non-fatty solids	Freezing point depression °C.	
X. 452	2.75	7.25	.460	14.7% added water
X. 454	3.75	6.67	.420	21.5% " "
X. 455	3.05	7.20	.471	15.2% " "
X. 456	2.65	6.95	.453	18.2% " "
X. 458	3.00	6.65	.425	21.7% " "
X. 459	2.95	6.75	.418	20.5% " "
Y. 8	3.26	8.24	.499	3.0% " "
Y. 135	3.50	7.85	.500	7.6% " "
Y. 289	3.75	7.80	.495	8.2% " "
Y. 296	3.15	8.10	.521	4.7% " "
Y. 328	4.14	8.16	.509	4.0% " "
Y. 330	2.70	7.00	.449	17.6% " "
Y. 331	3.45	8.10	.522	4.7% " "
Y. 332	2.95	7.65	.485	10.0% " "
Y. 396	2.75	6.20	.379	27.0% " "
Y. 397	3.00	7.55	.456	11.1% " "
Y. 398	3.05	7.30	.453	14.1% " "
Y. 399	3.30	8.10	.498	4.7% " "
Y. 400	3.10	7.35	.451	13.5% " "
Y. 401	2.90	6.20	.388	27.0% " "
Y. 402	3.10	8.15	.508	4.1% " "
Y. 403	2.60	6.55	.399	22.9% " "
Z. 35	3.40	8.16	.512	4.0% " "
Z. 170	2.85	8.20	.517	3.5% " "
Z. 320	3.15	7.78	.490	8.4% " "
Z. 330	3.03	8.20	.515	3.5% " "
Z. 331	3.26	8.24	.524	3.0% " "
Z. 332	3.95	8.05	.516	5.2% " "
Z. 334	3.60	8.25	.526	2.9% " "
Z. 335	3.40	8.00	.516	5.8% " "
Z. 336	3.05	8.15	.519	4.1% " "

In all of these cases of double adulteration and watered samples the alleged added water as obtained from the Board of Agriculture standard was well confirmed by the freezing point depression. Each case was referred back to the source, yielding samples which gave normal figures for non-fatty solids, and freezing point depressions larger than .530.

About half of these watered samples were taken informally, and the fact that formal samples collected a few days later gave evidence of the same degree of adulteration with water, shows that the adulteration must have been fairly systematic.

In one case, four samples were taken from each of four churns, which consisted of one consignment of 56 gallons. Analysis showed conclusively that 46 gallons were milk mixed with 10 gallons of water, and the vendor was fined £20.

In another case, one consignment of 36 gallons contained at least 6 gallons of extraneous water and the subsequent police court proceedings resulted in a fine of £10.

Although the view is often heard that milk is not adulterated with water in these days, yet it is not substantiated by any means completely from experience in these laboratories. It is only fair to say, however, that these thirty-four watered samples of milk quoted above really only represent about a dozen cases whereby the public had been defrauded, and fines to the extent of £41 were imposed. At the same time, in some cases, it appears that the fraud has been quite systematic.

Of the 74 samples which were deficient in fat, 30 showed a deficiency of (or greater than) 10 per cent. and 5 samples were deficient in fat to the extent of 20 per cent. or more.

35 samples were informal milks, and either the subsequent formal samples were genuine, or when mixed with other informal genuine samples to form one consignment, the mixture satisfied the minimum amount of 3 per cent. of fat.

18 samples on referring back to the cow (appeal to cow samples) were naturally deficient in fat and hence abnormal samples. Cautions were given by the Town Clerk in 19 cases, one was fined and another case was dismissed on account of the bursting of the third portion of the formal sample. This was unfortunate since the sample was deficient in fat to the extent of 23·3%, and the analysis of samples of skimmed milk and new milk taken from the same vendor at the same time showed that the adulterated sample could have been produced by mixing 2 parts of new milk with one of skimmed.

The large number of samples condemned for fat deficiency was particularly noticeable in the second quarter of the year and the following table shows the number condemned for each quarter of the year, compared with those condemned for added water.

Table 6.

				Samples of milk condemned for :	
				deficiency in fat.	added water
1st quarter	...	...		8	2
2nd	„	...	...	48	2
3rd	„	...	...	17	22
4th	„	...	...	1	8
Total	...	...		74	34

During the 2nd quarter, there were submitted 452 samples of milk and hence more than 10 per cent. of these were deficient in fat, which is a very poor state of affairs. The dry spell in February, March and April may have been a slight factor in the production of milk of poor quality in some cases, yet the average fat content for the 2nd quarter for genuine samples was about 3·4 per cent. which shows that the majority of producers can feed their cattle adequately in order to obtain milk of good quality, despite climatic conditions.



*Abnormal milk. Low non-fatty solids.*

Table 7.

Number of sample.	Specific gravity.	Fat.	Non-fatty solids.	Freezing point depression $\Delta$
X. 253 ...	1029.5	3.9	8.35	.543
X. 379 ...	1030.3	3.1	8.4	.542
X. 380 ...	1030.3	3.2	8.45	.546
X. 382 ...	1029.3	4.0	8.45	.550
X. 411* ...	1029.1	3.3	8.2	.546
X. 412* ...	1030.0	2.9	8.3	.541
X. 413* ...	1029.4	3.35	8.25	.543
X. 464* ...	1029.7	3.0	8.3	.549
Y. 117 ...	1029.8	3.55	8.4	.548
Y. 118 ...	1030.1	3.5	8.45	.536
Y. 295 ...	1028.5	4.45	8.2	.541
Y. 324* ...	1030.6	3.15	8.4	.542
Z. 118 ...	1029.7	3.3	8.4	.540
Z. 368 ...	1029.4	3.7	8.4	.539

\* 'Appeal to cow' samples.

Five of these abnormal milks in the above table were "appeal to cow" samples, and *ipso facto* genuine.

The remaining nine samples, despite the figure for non-fatty solids being slightly below the presumptive standard of the Board of Agriculture, were returned as genuine without question. This shows the immense value that the freezing point determination is to the producer as well as to the analyst.

*Abnormal milk. Low fat.*

17 samples were returned as abnormal, due to deficiency in fat, and were of course "appeal to cow" samples.

The fat usually ranged between 2.5 and 2.9%, but in two cases, the fat content was as low as 2.35 and 2.42% respectively.

Now there is very little excuse for such poor quality milk being sold to the public in these days of agricultural education. Either the farmers and producers concerned should seek advice from the Agricultural Advisory department of the University, on the problems arising out of abnormal milk, due to poor feeding, ill-health, etc. or the cows should be taken out of the dairy herd and fattened for beef.

One would have thought that there would exist a natural pride in producing rich clean and safe milk now that signs are evident that the consumption of milk is increasing, and that milk is recognised as such a valuable food, especially for young children and invalids. Although, no doubt, there are many farmers justifiably proud of their product, yet one cannot help thinking that some sacrifice quality for quantity.

*"Appeal to cow" samples.*

77 samples of milk were collected by inspectors of Food and Drugs at the farm. These samples were milked in the presence of the inspectors, and all precautions were taken regarding the use of dry clean milking cans, dry churns, no leaking coolers and the milk well plunged. In 17 cases, the fat was below 3·0%, but usually the mixture of 2 or 3 churns which formed one consignment brought the fat up to 3% or more.

In 5 cases, the non-fatty solids were slightly below 8·5%, but the freezing points were perfectly normal.

*Suspicious.**Table 8.*

Number of sample.	Non-fatty solids.	Freezing point depression $\Delta$
X. 261 ...	8·35	·514
X. 308 ...	8·4	·525
X. 436 ...	8·3	·525
X. 437 ...	8·35	·529
Z. 73 ...	8·35	·526
Z. 77 ...	8·6	·516

Twenty-eight samples of milk were reported as suspicious, twenty-two being due to slight deficiencies in fat, which were usually corrected on re-examination at a later date. The six remaining samples are shown in Table 8 above, where the freezing point depressions suggest small quantities of added water. These were followed up to check careless handling and to trace leaking coolers.

*Table 9.**Average composition of genuine milk for the year 1938.*

Month	Number for each month	Specific gravity	Fat	Non-fatty solids
January ...	109	1032·0	3·58	8·89
February ...	113	1032·1	3·51	8·88
March ...	149	1032·0	3·41	8·85
April ...	114	1032·1	3·39	8·86
May ...	139	1031·2	3·38	8·80
June ...	109	1031·5	3·38	8·72
July ...	91	1031·2	3·60	8·70
August ...	69	1031·2	3·43	8·65
September ...	73	1031·3	3·57	8·73
October ...	123	1031·8	3·65	8·85
November ...	128	1031·6	3·70	8·79
December ...	101	1032·1	3·70	8·91
Average for year	1,318 (total)	1031·7	3·53	8·80

The above table contains only those milks which were genuine, the adulterated, abnormal and suspicious not being included. However, the inclusion of these samples does not affect the average

figures very much, and the mean figures for all samples of milk received during the year were :—

Number of samples.	Specific gravity.	Fat	Non-fatty solids.
1591	1031.5	3.45	8.74

A large number of samples of milk were taken direct from farms, and although these are primarily submitted for the detection of the tubercle bacillus, yet the figures of analysis give a very good guide as to the type of milk entering the city.

#### *Freezing point of milk.*

The Hortvet apparatus has been in constant use this year and has proved invaluable in differentiating between abnormal and suspicious samples, besides confirming beyond all doubt those samples adulterated by the addition of water.

460 determinations of the freezing point in the Hortvet apparatus were done on samples of milk during 1938 ; thus about 3,400 freezing point depressions have been determined since the apparatus was first used in May 1931. The average freezing point depression for genuine samples (i.e., excluding those reported as adulterated and suspicious) for the year was 0.544.

It is the practice in all cases of adulterated milk to follow up the sample to the source, and on comparing the figures for non-fatty solids and freezing point depression of the watered sample with those of the genuine sample collected a few days later, it is remarkable how close is the agreement of the amount of added water as calculated from the original non-fatty solids and the original freezing point depression.

Another series of samples of milk from an individual cow (Cow 6) has been examined during the year, with special reference to the variation of the freezing point at the morning and evening milking. Samples were collected three days after calving in January, and during this, the second lactation, 117 samples of milk have been examined, together with 8 samples of blood collected at the corresponding milking.

The freezing point has been determined on the whole of these samples of milk and blood, and in the case of some selected samples of milk, the fat, non-fatty solids, ash, the chloride content, protein and lactose have also been determined.

These figures have been submitted to the Public Analysts and Official Agricultural Analysts Committee of the Society of Public Analysts, and to the National Institute for Research in Dairying. The National Institute has purchased the cow, it being kept at the veterinary department of the Ministry of Agriculture at Weybridge for purposes of further investigation and research.

### Condensed milk.

Four samples were examined under the Food and Drugs Act, three being full cream unsweetened and one full cream sweetened. All were found to contain more than 9% milk fat, more than 31% milk solids, and the tins contained the equivalent number of pints of milk stated on the labels, thus satisfying the Condensed Milk Regulations, 1923.

One sample referred to a case where the fat had been found to be low when examined by another Authority, but a sample of the same brand purchased in Bristol was found to contain 9.4% fat, indicating a different batch altogether.

### Cream.

Five samples were submitted as raw cream and two were sold as half-price cream.

Some of the principal figures are given in the following table :

*Table 10.*

Sample No.	212	half-price	214	half-price	289
		213		215	
%					
Total solids	55.1	28.5	56.7	42.7	53.0
Fat ... ..	51.5	23.5	53.2	37.3	48.4
Non-fatty					
solids ...	3.6	5.0	3.5	5.4	4.6
Ash ... ..	0.37	0.48	0.36	0.47	...
			Sp. gr.		0.986

All the samples were free from preservative, and the fat consisted of butter fat as given by the Reichert No.

Sample 289 arose out of a case, taken by the inspector of weights and measures, successful in the police court and at Quarter Sessions, in which half pint of cream was asked for, and the sample proved to be two fluid ozs. and 6 drachms short.

### Ice cream.

Seven samples submitted under this heading were examined, and all were returned as genuine. One sample contained 18% of fat, the remainder containing only a mean percentage of 2.6% of fat, hence only one sample would have passed the standard recommended by the Ice Cream Manufacturers' Association of Great Britain and Ireland some years ago, i.e., a frozen product containing not less than 8% milk fat. Four samples contained starch and were little more than frozen custard powder emulsion. Metals and preservatives were not detected.

It is to be hoped that after the Food and Drugs (Adulteration) Act 1938 comes into operation on 1st October, 1939, legal standards and definitions will be laid down for this popular commodity.



## Adulterated samples other than milks.

Table 11.

Number of sample.	Nature of sample.	Result of analysis.
1	Vienna roll ...	contaminated with foreign matter.
21	Mustard ...	23% starch.
60	" ...	23% "
97	Cider ...	{ 15 parts per million copper
147	Cider ...	{ 15 " " " zinc.
156	Solution of iodine	{ 14 parts per million copper.
179	Solution of iodine	{ 16 " " " " zinc.
254	Vinegar ...	81.6% deficient in iodine.
394	Butter ...	37.9% " potassium iodide.
438	Gin ...	50.0% " alcohol.
516	Vinegar ...	65.3% " iodine.
526	" ...	37.9% " potassium iodide
527	" ...	47.0% " alcohol
536	Table vinegar ...	8.7% deficient in acetic acid.
		17.1% water
		16.7% added water.
		58.0% deficient in acetic acid.
		58.0% " " "
		27.5% " " "
		100% artificial vinegar.

## Fatty substances.

The following samples were examined. With the exception of one sample of butter, all were reported as genuine.

100 samples of butter		
7	"	buttered rolls.
17	"	margarine.
2	"	nut cream butter.
11	"	cheese.
16	"	lard.
16	"	dripping.
4	"	shredded suet
10	"	cooking fat.

The sample of butter was condemned for the presence of 17.1% water. Although the excess of water above the legal standard is only 1.1%, and appears to be very small, yet the profit gained by selling butter with this small excess of water would be about £1 per ton, which is not inconsiderable in the case of a wholesaler selling many hundreds of tons in a year. One other sample of butter was returned as suspicious, since it contained 16.1% of water. The fat of all the samples was butter fat as judged by the Reichert figure, which varied between 23.6 and 34.2, giving a mean figure of 30.7.

Seven samples of buttered rolls were submitted by the inspector. Butter had been spread on the rolls in all cases, as shown by the Reichert figures which varied between 26 and 34.

The majority of the samples of margarine were based on a coconut or palm kernel oil constituent, and in three cases cotton seed oil was also present. Butter fat was well below 10% in all cases. The samples of Nut Cream butter were probably mixtures of coconut oil with walnut and cashew oils.

The fat content of the samples of cheese varied between 29.1% and 49.3% giving a mean figure of 41.2%, or calculated on the dry matter a mean percentage of 58.5%. The average amount of moisture was 29.7% and the mean Reichert figure was 30.

All of the samples of lard were genuine and consisted of 100% hog's fat. The mean figures of analysis were as follows :—Zeiss at 40°C. 50 ; Valenta test. 87°C ; Iodine No., 59.4 ; Melting Point. 45°C ; Melting point of crystals from ether, 64°C.

The samples of dripping consisted of 100% fat, and gave the following mean figures :—Zeiss at 40°C. 47.4 ; Valenta test. 92.3°C ; Iodine No. 42.8 and Melting point 46°C.

The mean fat content of the samples of shredded suet was 87.6% which is well above the recommendation of the Council of the Society of Public Analysts that, pending the establishment of a legally authorised standard, shredded suet should contain not less than 83% of fat. Hence the addition of rice flour was not excessive. The mean figures for the fat were :—Zeiss at 40°C. 46.3 ; Valenta test 96°C. ; Iodine No. 37, and melting point 49.4°C.

All of the samples of cooking fat, excepting two, consisted of 100% fat. These two samples contained 8.9% and 7% of water respectively. Since cooking fats are generally used as a substitute for lard, one would expect them to contain no moisture at all, and that is usually found to be the case. However, these two samples were sold with a label stating that they contained "far less moisture than butter or margarine," and this statement is perfectly true, for butter and margarine contain about 15% of water. Hence the declaration of the presence of water in these two samples would appear to render the sale a legal one, and they were reported as genuine. The mean figures for the ten samples of cooking fat were : Zeiss at 40°C. 50 ; Valenta test, 84°C ; Iodine Value 65.3 ; and melting point 37.3°C.

### Starchy foods.

A sample of Vienna Roll was received from the inspector as a result of a complaint as to the presence of foreign matter. A slice had been cut from the roll, revealing a hole which was partially filled with finely cut tobacco leaf, and attached to the side of the hole was what appeared to be a thin layer of paper. Microscopic examination showed that this was cigarette paper, charred at one end, and typical structures of tobacco leaf were demonstrated. The sample was condemned as being contaminated with a portion of a burnt cigarette.

A slice of bread was submitted with the complaint that it contained foreign matter. There was a small hole filled with what appeared to be a desiccated insect, and under the lens the appearances of two antennae on the head and the large wing surface rather suggested a moth than a common house fly. This was confirmed

by the Long Ashton Research Station, the suggestion being that the insect belonged to the species of *Ephestia*, or flour moth. Hence the presence of this moth, indigenous to flour, was accidental.

A sample of biscuits was examined and gave the following figures :

Table 12.

Moisture %	...	...	...	...	8.9
Ash %	...	...	...	...	0.8
Protein %	...	...	...	...	5.5
Fat %	...	...	...	...	16.2
Zeiss at 40°C. on fat	...	...	...	...	49.2
Iodine no.	"	"	...	...	56.5
Starch ...	...	...	...	...	Wheaten

The biscuits were rather moist and under baked, and probably on that account somewhat devoid of flavour. There was a marked improvement in flavour on baking for a short time in a hot oven.

The following table gives the figures for the remainder of the samples under this heading :—

Table 13.

Description	No. of samples	Moisture % average	Ash % average	Protein % average	Starch
Custard powder	3	10.78	0.20	—	Maize
Corn flour ...	3	11.58	0.36	0.75	"
Flour, plain ...	10	12.00	0.50	11.62	Wheaten
Flour, self raising	8	11.96	2.05	11.11	"
Oatmeal ...	3	9.40	1.83	12.85	Oat
Pearl barley ...	3	11.83	0.12	—	Barley
Rice ...	6	12.02	0.41	6.92	Rice
Sago ...	2	13.54	0.14	0.67	Sago
Tapioca ...	12	12.0	0.13	0.17	Tapioca

### Sugars.

Thirteen samples of sugar were examined, consisting of the following varieties :

Description.	No. of samples.
Jam ... ..	6
Sugar ... ..	3
Sweetmeats ... ..	4

The samples of jam satisfied the preservative regulations with the exception of one which was slightly in excess of the limit of 40 parts per million of sulphur dioxide.

The soluble solids ranged from 69.9 to 73.7 per cent. as obtained from the immersion refractometer, giving an average figure of 71.8 per cent., which is well above the standard of the Food Manufacturers' Federation, i.e., 68.5 per cent. The soluble solids as obtained from the specific gravity at 20°C. of a 20 per cent. extract was only about 1 per cent. lower.

The fruit content as obtained from the insoluble solids exceeded the amount guaranteed in all cases. The sugar used was cane sugar, three quarters of which having been inverted, but in four cases the addition of about 6 to 10 per cent. of glucose was evident from the polarimetric readings.

Of the three samples of sugar, one was raw Peruvian sugar, and contained about 97 per cent. sucrose with very little ash and moisture, and only a faint trace of tin.

The sweetmeats were arsenic free, practically free from metallic contamination, and complied with the preservative regulations.

### Sausages.

Seven samples were submitted, one of which was preserved sausage containing 270 parts per million sulphur dioxide, which is well below the limit of 450 parts.

The remaining samples were free from preservatives and were genuine.

One sample was submitted for the quantitative estimation of meat, and was found to contain about 56%.

### Ground almonds.

Four samples were examined, giving the following figures :—

Table 14.

No.	432	433	434	435
% Moisture ... ..	4.19	4.47	3.95	4.91
% Ash ... ..	2.51	2.99	2.84	3.13
% Oil ... ..	61.19	57.38	59.29	55.65
Zeiss reading at 40° C.	57.5	56.1	58.2	57.2
= Refractive index at 40° C. ... ..	1.4643	1.4634	1.4647	1.4641
Iodine value ... ..	93.15	90.28	88.45	94.95
Microscopical examination	no	starch	found	

These figures conform to those of genuine samples examined in previous years.

### Tea.

Twenty-one samples were examined. They all gave typical microscopical appearances and were genuine.

The mean analytical figures were as follows :—

	%
Moisture ... ..	7.8
Total ash ... ..	5.55
Soluble ash ... ..	3.42
Alkalinity of soluble ash (as K <sub>2</sub> O)...	1.68
Silica ... ..	0.2

There was no evidence of spent leaves or foreign structures.



**Coffee.**

Fourteen samples were examined. The average specific gravity of a 10% decoction was 1009·7.

The samples showed normal microscopical appearances and all were genuine.

One sample of chicory was also examined, the specific gravity of a 10% decoction being 1027·9.

**Cocoa.**

Twelve samples of cocoa were submitted, giving the following mean analytical figures :—

*Table 15.*

					%
Moisture	...	...	...	...	6·52
Ash	...	...	...	...	6·80
Soluble ash	...	...	...	...	5·10
Alkalinity as K <sub>2</sub> O	...	...	...	...	2·25
Fat	...	...	...	...	16·92
Zeiss reading at 40°C	...	...	...	...	46·8
Cold water extract	...	...	...	...	24·94
Ash of cold water extract (both expressed as percentage of dry fat-free substance)	...	...	...	...	7·01

No foreign starch and no arsenic was detected in any of the samples.

**Pepper.**

Twelve samples were examined.

The average figures were as follows :—Moisture, 10·34% ; Ash, 0·85% ; Soluble ash, 0·16% ; Silica, 0·08%.

The highest amount of silica found in pepper was 0·18%.

All the samples showed the usual microscopical appearances and all were genuine.

**Vinegar.**

Eighteen samples were examined, five being condemned. Four were deficient in acetic acid, and one which was labelled " Table Vinegar " contained 100% artificial vinegar. The manufacturer in the latter case was cautioned by the Town Clerk, provided that the label was altered to " Non-brewed Vinegar."

The four samples which were deficient in acetic acid showed deficiencies ranging between 8·7% and 58% (which means that the vinegar contained only 1·68% of acetic acid instead of at least 4%). Such a deficiency as 58% appeared to suggest gross fraud on the part of the retailer, especially as a further sample obtained on delivery to the retailer was found to contain more than 4% acetic acid. The most common method of producing vinegar deficient in acetic acid would appear to be by the addition of water. Sometimes it is stated by the defence that deficiency of acetic acid may have been caused by evaporation due to the cask being uncorked. But in this

particular case, neither the addition of water nor loss by evaporation could account for this very large deficiency of acetic acid. This opinion was based on the following figures of analysis :—

Table 16.

Purchased from—	Retailer		Manufacturer
Vinegar No. ...	526	527	536
Acetic acid % ...	1·68	2·9	4·1
Total solids % ...	0·3	0·32	0·3
Ash % ...	0·03	0·04	0·03
Specific gravity at 60°F	1003·9	1005·7	1007·4
Colour in Lovibond units			
yellow ...	30	30	30
red ...	9·7	9·6	9·4
Deficiency in acetic acid %	58	27·5	0

From a consideration of these figures, it appears quite improbable that the deficiency of acetic acid has been brought about by the addition of water for the following reasons :—

- After deducting the specific gravity due to the acetic acid present, from the specific gravity of the vinegar, the specific gravity of the extract is practically a constant in the three vinegars, i.e. 1002·1.
- The Total Solids are practically constant for the three vinegars, i.e., 0·3%.
- The intensity of the colour of the three vinegars is practically the same in the Lovibond Tintometer, whereas on actually diluting one of the vinegars with 50% water, the yellow and red units were halved.

As regards the possible loss of acetic acid by keeping, further samples of the deficient samples were collected after more than a three weeks interval, and the figures for acidity were exactly the same as on the previous occasion, thus showing no loss of acidity by keeping.

Since these “vinegars” are merely solutions of acetic acid in coloured water, the inference that the deficiency of acetic acid was due to very inaccurate preparation was highly probable, and that the retailer had sold the vinegar in exactly the same condition as received from the manufacturers. Hence, at the subsequent proceedings at the police court, in fairness to the retailer, this opinion was put forward in the case for the prosecution, and resulted in a dismissal under the Probation of Offenders Act with a few shillings costs.

The genuine samples of vinegar yielded a mean acetic acid figure of 4·40%.

The mean figures for genuine malt and artificial vinegar were :

	Malt.	Artificial.
Special Gravity at 60°F ...	1011·7	1008·5
Total solids % ...	1·3	0·36
Ash % ...	0·15	0·04

Arsenic was well below the limit of  $\frac{1}{100}$  grain per gallon in all cases excepting one, in which there was a slight excess. A subsequent sample from the same source was proved to be under the limit.

A sample of chopped mint in vinegar was received as a result of a complaint. Besides mint and vinegar the sample also contained three wasps and two flies. It is a mere matter of conjecture as to the period when these insects may have gained admittance to the sample, but since the sample was received in November, one would hardly expect such insects to be prevalent enough to account for their presence even if the bottle were left unopened.

### Mustard.

Ten samples were examined, one being sold as mustard compound. Two samples, sold as pure mustard, contained 23% wheaten starch in each, and were condemned.

The following table gives the average figures for pure mustard, compound mustard, and the adulterated samples, and the depression of the oil content gives a fair indication of the amount of starch present.

Table 17.

	Moisture	Ash	Oil	% Starch
Whole mustard ...	5.1	4.5	35.5	nil
Mustard compound	5.6	4.3	31.5	present
Adulterated sample	8.2	2.7	21.8	23%

### Beer.

Eight samples of beer were examined and all were genuine. Some of the figures obtained are given in the following table :—

Table 18.

No.	Bitter 122	Bitter 123	I.P.A. 124	Bitter 125	Bitter 539	I.P.A. 540	I.P.A. 541	Bitter 542
Original gravity	1035.2	1038.1	1050.8	1035.6	1035.0	1047.3	1050.3	1034.1
Alcohol by weight %	3.02	3.14	3.90	2.96	3.1	3.9	3.9	3.1
Proof spirit%	6.6	6.87	8.5	6.48	6.74	8.5	8.5	6.74
Acidity as Acetic acid%	0.13	0.18	0.20	0.17	0.16	0.18	0.22	0.19

No sample gave more than 0.5 part per million of lead, and arsenic was detected in faint traces only. Sulphur dioxide was detected in four samples, but the amount was well below the limit allowed of 70 parts per million, the highest amount found being 26 parts per million.

**Cider.**

Seventeen samples of cider were examined mainly with the view to the determination of the amount of metallic contamination. The following amounts were determined in parts per million :—

*Table 19.*

Number of sample	Lead Pb.	Copper Cu.	Zinc Zn.
94	3	2	...
95	0·7	1	...
96	0·9	1	...
97	1·5	15	15
98	0·2	1	...
99	2·5	1	...
120	0·2	3	...
121	0·2	7	...
146	...	2·5	...
147	...	14	16
176	0·45	1	...
177	0·4	0·85	...
178	0·35	0·8	...
216	0·3	0·9	...
217	0·4	1·1	...
218	0·5	1·5	...
219	0·4	1·1	...

As will be seen from the above table, sample No. 147, a formal sample, which was a repeat of informal sample No. 97, contained 14 parts of copper per million, together with 16 parts of zinc per million, and was condemned. This was a gross case of metallic contamination and the presence of copper and zinc together suggested that brass was the contaminating agent. This proved to be the case, in that the cask of cider was provided with a brass tap, and the substitution of a wooden tap was immediately recommended.

Three other samples of cider were returned as suspicious, one contained 7 parts per million of copper and the others 3 parts and 2·5 parts per million of lead respectively. In view of the fact that cider can be produced practically free from copper and lead, investigation was made to the sources of these samples in an effort to reduce the amount, and samples taken later showed that this could be done. In the absence of an official standard for copper and lead in cider, a working standard of 5 parts of copper, and 2 parts of lead per million has been adopted. This is equivalent to  $\frac{1}{3}$  grain of copper and  $\frac{1}{7}$  grain lead per gallon respectively.

Some of the mean analytical figures for genuine cider are given :— Alcohol by weight, 4·2% ; Proof Spirit, 9·16% ; Fixed acidity as Malic acid, 0·18% ; Volatile acidity as acetic acid, 0·4%.

All the samples of cider satisfied the Preservative regulations, the highest amount of sulphur dioxide found being 98 parts per million (limit 200).

**Wines and Spirits.**

Two samples of wine and twenty-seven samples of spirits were examined.



The wines were blackcurrant and elderberry, and contained about 14% alcohol by weight, equivalent to 30% of proof spirit. No preservatives were detected.

The following varieties of spirits were examined :—

Brandy	...	...	5
Whisky	...	...	4
Rum	...	...	3
Gin	...	...	15

All of these were genuine, excepting one sample of gin, which was 45·9 degrees under proof, equivalent to 16·7% added water.

### Non-alcoholic drinks.

Six flavoured cordials were examined. Three contained benzoic acid and one was preserved with sulphur dioxide, but the amounts were within the limits allowed by the preservative regulations. All of them contained less than 2% proof spirit.

Fourteen mineral waters were submitted, all of which satisfied the preservative regulations. Four were preserved with benzoic acid and one with sulphur dioxide.

One sample was a brand very popular in this country and America and gave the following figures on analysis :—

*Table 20.*

Total Solids % w/v	...	...	11·1
Ash	...	...	0·05
Specific gravity at 60°F	...	...	1048·8
Alcohol	...	...	nil
Benzoic acid	...	...	nil
Sulphur dioxide	...	...	nil
Caffeine % w/v	...	...	0·028
Cocaine	...	...	nil

Assuming that half a teaspoonful of tea or about 1·5 grammes, are required to make one cup of tea, and the average amount of caffeine in tea is 3·5%, then the amount of caffeine in a cup of tea would be 0·05 gramme.

Similarly, assuming that two teaspoonsful of coffee, or about 6 grammes, are required to make one cup of coffee, and the average amount of caffeine in coffee is 1·0%, then the amount of caffeine present would be 0·06 gramme.

A bottle of this liquid measures about 200cc. and contains 0·056 gramme of caffeine, hence there is about the same amount of caffeine in a bottle of this drink as there is in a cup of tea or coffee.

**Drugs.**

The forty-nine specimens of drugs consisted of the following :—

*Table 21.*

Bicarbonate of soda ...	4	Epsom salts ...	3
Boric ointment ...	9	Glauber's salt ...	3
Camphorated oil ...	4	Iodine solution ...	5
Castor oil ...	4	Olive oil ...	4
Cod liver oil ...	3	Tartaric acid ...	3
Citric acid ...	3	Zinc ointment ...	4

With the exception of two samples of iodine solution, all of these drugs complied with the requirements of the British Pharmacopoeia, 1932.

The samples of iodine solution were grossly deficient in the three constituents as the following figures show :—

*Table 22.*

Sample Number ...	156 %	179 %	B.P. limits %
Iodine w/v ...	0·45	0·85	2·45 — 2·55
Potassium iodide w/v ...	0·90	0·90	1·45 — 1·55
Alcohol v/v ...	39·0	45·0	85 — 88
Deficiency of iodine ...	81·6	65·3	
„ Potassium iodide	37·9	37·9	
„ alcohol ...	54	47	

The vendor of this worthless stuff was fined £2, and it is to be hoped that facilities will be forthcoming in the new Food and Drugs Act to procure samples of drugs on delivery from the manufacturers, so that proceedings can be instituted against the real offenders.

Only one of the four camphorated oils contained natural camphor, the other three containing the synthetic variety, but according to the B.P. 1932, either may now be used.

Three samples of Cod-liver oil were examined with special reference to Vitamin A potency :—

*Table 23.*

No.	523	524	525	Limits B.P. 1932
Specific gr. at 60°F ...	·9276	·9262	·9262	·922 — ·929
Refractive index at 40°C.	1·4710	1·4713	1·4707	1·4705—1·4745
No. of Lovibond blue units given by 0·04 grammes oil ...	9	13	13	not less than 6

The three samples complied with the requirements of the B.P. 1932, and the antimony trichloride test, as measured by the blue value, gives a fair indication of the relative Vitamin A potency of these oils.

### Preservatives and colouring matter.

No evidence of preservative was found in milk, skimmed milk, cream, butter, or margarine during the year. Considering that nearly sixteen hundred samples of milk were examined, it is very satisfactory to be able to report that not one sample contained formaldehyde, boric acid, or artificial colouring matter.

All the samples of food conformed to the preservative regulations with the exception of one jam which contained a slight excess of sulphur dioxide.

The following table shows the number of samples which contained sulphur dioxide, with the highest amount found and the limit allowed :—

Table 24.

Nature of sample	No. of samples	Highest estimation Limit allowed	
		Parts per million	
Beer ... ..	4	26	70
Cider ... ..	6	98	200
Dried fruit (a) ...	14	1,160	2,000
Dried fruit (b) ...	11	333	750
Jam ... ..	5	48	40
Mineral water ...	3	50	70
Sausages (preserved)...	1	270	450
Table jelly ... ..	8	162	1,000
Unfermented cordial...	1	274	350

Benzoic acid was detected in the following samples :—

Table 25.

Nature of sample	No. of samples	Highest estimation Limit allowed	
		parts per million	
Mineral Water	4	100	120
Unfermented cordial	3	534	600

A proprietary preservative, said to be for use in preparation of chipped potatoes, was examined. It was a solution of sulphur dioxide in water, containing 5·6 per cent. sulphur dioxide.

## PART II.

### PORT SAMPLES.

The examination of food imported at the City and Avonmouth docks is carried out for two purposes,—one to ensure that the food regulations of this country are complied with, such as the presence and the amount of preservative, and the extent of metallic contamination ; the other to decide whether certain cargoes are fit for consumption when they show signs of damage. During the year 116 samples were received, of which 80 were examined primarily for the presence of preservatives.

Table 26.

Nature of sample.	Number of samples.	Highest amount p.p.m. SO <sub>2</sub>	Number in excess limit	Limit allowed.
Dried fruit (a) ...	2	1,293	...	2,000
(b) ...	11	1,070	4	750
Apricot pulp ...	2	1,300	...	1,500
Blackcurrant pulp	3	1,400	...	1,500
Raspberry pulp ...	4	1,430	...	2,000
Strawberry pulp ...	5	1,526	...	2,000
Raspberries in SO <sub>2</sub>	2	1,725	...	2,000
Strawberries in SO <sub>2</sub>	2	1,712	...	2,000
Cherries in brine	1	815	...	3,000
Cider ...	2	50	...	200

(a) = apricots, peaches, apples and pears.

(b) = raisins and sultanas.

It will be seen from the above table that four samples were found to contain sulphur dioxide in excess of that allowed by the Public Health (Preservatives, etc., in Food) Regulations, 1927. These were samples of sultanas and contained 960, 1,000, 1,020 and 1,070 parts of sulphur dioxide per million respectively.

The following samples contained no sulphur dioxide.

Table 27.

Canned carrots...	...	2	Evaporated apples ...	1
" celery	...	1	Figs ...	2
" cherries	...	1	Lunch tongue	1
" herring roes	...	1	Meat galantine	1
" spinach	...	2	Muscatsels ...	2
" tomatoes	...	13	Prawns ...	1
" oranges	...	2	Shrimps ...	1
Corned beef ...	...	2	Spaghetti ...	1
Corn flakes ...	...	1	Shelled walnuts	1
Candy ...	...	1	Syrup ...	1
Dried fruit ...	...	5	Tomato puree	3

Four samples of machine-skimmed condensed milk were examined. They were very similar in composition, and the following table gives the mean figures of these four samples, together with the figures for a sample of full cream evaporated milk :—

Table 28.

	Machine skimmed, average of four samples	Full cream evaporated
Specific gravity at 60° F.	1,390	1,089
Fat ...	0·35	9·8
Protein ...	10·26	8·25
Lactose (anhydrous) ...	13·25	10·5
Ash ...	2·3	2·1
Sucrose ...	44·7	0

These samples conformed to the Condensed Milk regulations 1923, and contained no preservatives.



The following figures were obtained from two samples of skimmed milk powder :—

Table 29.

No.	A. 5	B. 21
Moisture ... ..	3·65	2·4
Ash ... ..	7·9	8·45
Protein ... ..	37·8	36·2
Fat ... ..	0·85	0·65
Lactose ... ..	48·75	51·15
	98·95	98·85

Two samples of chocolate malted milk powder gave the following figures :—

Table 30.

No.	A.1.	B.28.
Moisture ... ..	1·72	1·8
Fat ... ..	1·9	5·1
Protein... ..	8·0	8·4
Ash ... ..	2·36	2·4
Sucrose... ..	37	40·9
Reducing sugar as dextrose ...	18	18·5
Starch ... ..	+	+
Microscope ... ..	maize and cocoa starch, cocoa nib	

These samples appeared to be sweetened malted milk powder with chocolate flavour.

One sample of lactose powder contained more than 98% of crystalline lactose.

Samples of Beef powder and Beef stock gave the following figures :—

Table 31.

	Beef powder A. 13	Beef stock A. 14
Water ... ..	1·3	28·5
Protein ... ..	85·0	66·0
Fat ... ..	4·4	0·5
Ash ... ..	7·5	4·5
	98·2	99·5
	Boric acid	was not detected.

The following figures were obtained from a sample of sardine oil.

Table 32.

Smell ... ..	Fishy
Appearance ... ..	Dark brown
Specific gravity at 60° F. ...	0·9368
Saponification value ... ..	178
Iodine value ... ..	160·8
Zeiss at 40° C. ... ..	70·9
= Refractive index at 40° C. ...	1·4729

### Samples examined for metallic contamination.

Forty specimens, which included twenty-one samples of tomato products and seven samples of sardines were examined particularly for metallic contamination.

Copper in tomatoes was determined by the sodium diethyl-dithio carbamate method after wet ashing, and in fifteen cases tin was also determined.

The amounts determined appear in Table 33.

Table 33.

Sample No.	Description.	Total Solids %	Copper		Tin Grains per lb.
			in original parts per	on dried total solids million	
A. 4	Canned tomatoes ...	5.32	2.0	37	0.22
A. 9	" " ...	5.62	1.1	19	0.36
A. 10	" " ...	7.07	0.9	12	0.24
A. 11	Tomato puree ...	12.49	3.5	28	...
A. 28	Canned tomatoes ...	6.05	3.0	50	0.24
B. 1	Canned peeled plum tomatoes ...	...	1.95	...	0.045
B. 2	" " " (blown) ...	...	2.3	...	0.22
B. 12	Canned tomato puree ...	...	3.7	...	0.66
B. 13	Canned plum tomatoes ...	...	4.8	...	0.29
B. 14	" " " ...	...	1.4	...	0.31
B. 22	Tomato puree ...	11.18	12	107	0.84
B. 43	Peeled tomatoes ...	5.08	2.3	45.7	0.8
B. 54	Canned peeled tomatoes ...	5.1	6	117	0.31
B. 55	" " " ...	5.07	3	60	0.22
B. 75	Canned tomatoes ...	5.06	1.6	31	0.13
B. 76	" " ...	5.36	1.0	19	0.26
B. 82	Tomato puree ...	13.3	4	30	...
B. 83	Canned tomato puree ...	10.25	10	97.5	...
B. 84	Canned plum tomatoes ...	5.98	2.2	37.1	...
B. 85	Canned tomatoes ...	6.03	1.6	26.5	...
B. 86	" " ...	5.78	2.0	34.6	...

The amount of copper in Tomatoes which was recommended as a provisional limit at a Conference of Port Medical Officers of Health in January 1938 is 50 parts per million of the dried total solids, and it will be seen from the above table that this amount was exceeded in four cases.

A whole tomato, grown by a member of the staff, and which had never been sprayed, contained 1.8 parts of copper—naturally present—per million.

Sample B.2 was a "blown" tin and a volume of 231cc. of gas, which was identified as carbon dioxide, was collected.

Seven samples of sardines were found to be satisfactory as in no case was the amount of lead determined greater than 5 parts per million.

The amounts found, together with figures for the remaining eight samples, are shown in Table 34.

*Metallic contamination in substances other than tomatoes.*

Table 34.

No.	Description.	Lead parts/million	Copper parts/million	Tin grains/lb.
B.11	Canned red cherries	...	1.7	1.06
B.33	Canned oranges ...	...	...	1.05
B.51	Cider ...	2	5	...
B.56	Canned spinach ...	1	2.5	...
B.73	„ carrots ...	...	1	0.3
B.74	„ celery ...	...	1	1.0
B.79	Cider ...	0.5	1.5	...
B.81	Asparagus tips ...	...	0.8	...
B.20	Sardines ...	4		
B.40	„ ...	1.7		
B.41	„ ...	0.9		
B.57	„ ...	4.2		
B.58	„ ...	5		
B.60	„ ...	2.4		
B.61	„ ...	1.3		

It will be observed from the above Table that three samples contain about a grain of tin per lb.

The limit of two grains of tin per lb. has been widely adopted as a result of the Local Government Board Report, No. 7, of 1908, hence these three samples contain a half of this amount of tin.

### **Special examinations for extent of damage, etc.**

Two samples of lamb were suspected of being contaminated with liquid used for pickling pelts.

On examination the liquid proved to be an impure specimen of brine, and was free from arsenic and mercury. The samples of lamb both contained less than  $\frac{1}{400}$  grain of arsenic per lb., and were fit for consumption on that account.

Two samples of raspberry pulp, stated to have been affected by the escape of liquid from a soil pipe, gave low figures for combined chlorine, and damage by sewage or sea water was not apparent.

A sample of salt codfish possessing an objectionable odour of decomposition and having red patches on the flesh was examined. The stained portions of the fish yielded 3 parts of arsenic per million, and since the natural amount of arsenic in codfish is about 0.5 part per million, the patches of red were apparently related to arsenical contamination. The fish was adjudged unfit for consumption.

In view of an outbreak of vine disease in Crete, resulting in the spraying of vines with arsenical insecticides, a consignment of grapes from that source was examined for arsenic.

The grapes were apparently washed before export and contained no appreciable amounts of arsenic.

A sample of flour suspected of sea water damage, disclosed no abnormality when examined in parallel with an undamaged specimen, and thus showed no evidence of contamination.

## PART III.

## Fertilisers and Feeding Stuffs Act.

Twenty-seven samples were examined, six being formal and twenty-one informal. Fifteen were fertilisers and twelve were feeding stuffs.

The analytical results are given in the following tables :—

FERTILISERS. Table 35.

No.	Nature of Sample.	% Phosphoric acid (P <sub>2</sub> O <sub>5</sub> )				% (N)	
		Soluble		Insoluble.		Total	Nitrogen
		G.	F.	G.	F.	G.	F.
5	Bone meal ...	—	0·27	20·6	19·6	—	3·7
6	" " ...	—	0·3	20·58	21·43	—	4·73
7	" " ...	—	0·32	20·58	21·28	—	4·75
8	Superphosphate of lime ...	13·74	14·3	—	—	—	—
9	" " ...	13·74	14·2	—	—	—	—
20	Basic slag ...	—	—	Fineness.		—	—
21	" " ...	—	—	80	93	14·0	—
10	Nitrate of soda ...	—	—	80	78·5	14·0	—
11	" " ...	—	—	—	—	—	16·0
18	" " ...	—	—	—	—	—	15·5
19	" " ...	—	—	—	—	—	16·0
		—	—	—	—	—	15·5
		—	—	Free acid.		—	16·3
16	Sulphate of ammonia ...	—	—	—	0·015	—	20·56
17	" " ...	—	—	—	0·012	—	20·6
26	" " ...	—	—	—	0·018	—	20·6
27	" " ...	—	—	—	0·012	—	21·0
		—	—	—	—	—	21·3

G.—Guaranteed. F.—Found.

All but five of the samples of fertilisers fell within the limits of variation allowed by the regulations. These five samples contained a slight excess of nitrogen, but of course this is a feature which is not to the prejudice of the purchaser. However, for the sake of uniformity and consistency, an excess or a deficiency is reported as being outside the limits of variation, no matter what the constituent is, and be it a good or a bad feature.



FEEDING STUFFS. *Table 36.*

No. F. & F.	Nature of sample	Oil %		Albuminoids		Fibre		
		G.	F.	G.	F.	G.	F.	
4	Layers mash and cod liver oil ...	4.5	5.0	19.0	18.8	6.0	5.2	
12	Grass nuts ...	5.0	5.1	17.0	15.5	13.0	10.7	
1	Barley meal, grade II ...	Moisture		Ash		Fibre		
2	" " ...	7.35	4.98	Sand, etc.		5.0	Foreign seeds not greater than 0.5% 1.0% 1.5% 1.5% 2.0% 1.0%	
3	" " grade II ...	14.10	2.43			4.7		
23	" " " ...	10.3	4.2			7.1		
24	" " " ...	9.8	5.24			6.0		
25	" " " ...	12.2	2.83			4.7		
	" " " ...	11.2	2.77	0.95		4.5		
13	Mixed poultry corn			Grit				
14	" " "			12.0				
15	" " "			10.9				
22	" " "			0				
	" " "			6.4				

G—Guaranteed.

F.—Found.

The oil extracted from the sample of layers mash gave a slight positive reaction with antimony trichloride, showing the presence of Vitamin A.

The samples of mixed poultry corn arose out of a complaint regarding the amount of sand and grit present.

The Advisory Committee, appointed by the Minister of Agriculture and Fisheries to draw up Schedules in the Fertilisers and Feeding Stuffs Act, 1926, gives the following reasons for excluding poultry mixtures from the Schedules.

- (1) To insist on (say) not more than 10% grit in a poultry mixture, or that the amount added should be declared, would involve considerable difficulties in the matter of sampling and of analysis. In the nature of the substance, the grit tends to fall to the bottom of the container and it would be extremely difficult to ensure that any sample was representative of the bulk.
- (2) That every purchaser of a poultry mixture is in a position to see, by a casual examination of the substance, the nature of its contents, so that it is unlikely that anything in the nature of fraud can arise.
- (3) That any steps which might discourage the preparation of poultry foods containing grit ought not to be taken.

From the above table, it will be seen that the average amount of grit in the samples containing grit is about 10%, and the highest amount found, i.e., 12%, can hardly be considered an amount greatly in excess of the mean figure of 10%, taking into consideration the difficulties of sampling.

The samples of barley meal were submitted by the inspector on account of complaints regarding an excessive amount of moisture, especially in imported barley.

One of the samples contained 14.1% of water, which was considered somewhat excessive, since the moisture content is normally less than 13% and should not exceed that figure. This sample was taken at the mill within 48 hours of milling and had been processed by washing.

From the above table it will be seen that the moisture content of these samples of barley meal varied between 7.35% and 14.1%. This variability in moisture can be partly explained by the conditions of storage and the humidity of the air whilst in store. Also, in those cases where barley is cleaned or "processed," added moisture, over and above that natural to the seed, may result in the course of this treatment, thus providing another explanation of the variability in moisture.

Since any additional moisture beyond that natural to the meal is of no value as food for animals such as pigs, the value of the food is depreciated in proportion to the amount of excess water present.

It appeared therefore, worth while making experiments to see the natural content of moisture taken up by samples of moisture-free barley meal over a period of some six or seven weeks under different conditions.

- (1) Five samples of Barley Meal were dried at 100°C. to constant weight, giving the original moisture in the samples as received from the inspector.
- (2) The dried samples of Barley Meal in flat dishes were allowed to remain exposed to the air of the laboratory with a good draught from the open door and window. Weights were taken each day, and the moisture fluctuated up and down according to the relative humidity of the air. This was carried on for about 40 days, and during that time the relative humidity of the air reached 100% on at least five occasions.
- (3) The samples in flat dishes were then exposed to extreme conditions. They were placed in a small room near a ventilator, such that the outside air was continuously passing over the samples, and to make sure of 100% relative humidity, the air was saturated with aqueous vapour by continuous steam production.
- (4) The samples were then brought back to the conditions in (2) i.e., they were allowed to remain for 6 months exposed to the air of the laboratory with a good draught from the open door and window. The samples were weighed at the beginning and at the end of six months.

The results of the experiments under these four headings are given :—

*Table 37.*

Origin Sample No.	Russian F and F 29 %	Russian and Canadian F and F 30 %	Persian F and F 1 %	Canadian and Persian F and F 2 %	Persian F and F 3 %
1. Original moisture	12.0	12.4	7.35	14.1	10.3
2. Exposure to air of laboratory for forty days ...					
Minimum moisture	6.8	6.6	7.0	6.65	6.6
Maximum moisture	9.6	9.6	9.95	9.5	9.5
3. Exposure to out- side air saturat- ed with aqueous vapour for about ten days:					
Minimum moisture	9.7	10.5	10.5	9.3	9.5
Maximum moisture	13.8	13.5	14.55	12.7	12.9
4. Exposure to air of laboratory for 6 months :					
Moisture at the beginning of period ...	9.6	8.3	9.7	7.3	8.1
Moisture at the end of period	11.0	9.8	11.2	8.8	9.7
Difference in six months ..	1.4	1.5	1.5	1.5	1.6





Table 39.

Source	BRISTOL SUPPLY.		West Gloucester	Portishead
	Tap at Canynge Hall	Tap at Broadfield Road, Knowle Park.	Taps at Downend and Frenchay	Tap at Ham Green.
No. of analyses.	Parts per 100,000		Parts per 100,000	
	51	26	20	10
Total Solids ... ..	27·3	36·5	43·8	39·4
Mineral matter ... ..	23·1	32·0	40·3	34·9
Loss on ignition ... ..	4·2	4·5	3·5	4·5
Chlorine as Chlorides ...	1·1	0·95	5·3	1·4
Total Oxidised Nitrogen	0·10	0·10	traces	0·14
Free Ammonia ... ..	0·0015	0·007	"	traces
Albuminoid Ammonia	0·0025	0·001	"	"
Total Hardness (Clark's scale) ... ..	13°	17°	14°	20°
Permanent Hardness (Clark's scale) ...	3·5°	4°	2°	4·7°
pH ... ..	7·7	7·4	7·6	7·5

The above figures show that these public supplies possess great organic purity, and only on a few occasions were the bacteriological counts rather higher than desirable.

Two samples of the city supply were collected in February, 1938 at the Barrow Reservoir, before and after chlorination. No evidence of nitrites was given in either case, and well marked evidence of ammonia-chlorine treatment was given in the sample after chlorination.

Very frequently, samples collected at Canynge Hall give a very faint reaction for nitrites and only on a few occasions is any free residual chlorine detected. This is probably due to the distance from the source, also the age of mains, and "dead ends" may be factors in the case. However, to see if other parts of the city were similarly affected, several series of samples were collected from private houses and the clinics in all parts of the city. It was noticeable that the samples from the districts of Sea Mills, Whitehall and Ashley Down gave no reactions for nitrites and free residual chlorine, yet other districts gave evidence of faint traces of both, the series of samples being collected at the same time.

The samples of water from the Sherbourne spring source collected at Knowle, consistently gave well marked evidence of ammonia-chlorine treatment with the complete absence of nitrites. Free residual chlorine was not detected in the West Gloucester and Portishead supplies.

A complete analysis of the mineral matter of the city water was made on two samples, one collected at Canynge Hall (source—Barrow Reservoir) and the other at Knowle (source, Sherbourne Spring) :—

Table 40.

Source			Barrow	Sherbourne
No.			278	286
			Parts per	100,000
Silica	SiO <sub>2</sub>	...	0·52	0·92
Alumina	Al <sub>2</sub> O <sub>3</sub>	...	0·07	0·47
Lime	CaO	...	9·94	13·31
Magnesia	MgO	...	0·73	0·51
Sulphate	SO <sub>3</sub>	...	1·72	1·91
Sodium	Na	...	0·42	0·09
Chlorine	Cl.	...	1·13	0·92
Carbon dioxide	CO <sub>2</sub>	...	6·97	9·41
Nitrate	NO <sub>3</sub>	...	0·53	0·18
Mineral matter	...	...	22·03	27·72

Two samples of water from the Hotwells spring were taken, one at low tide, and the other at high tide. The latter did not differ appreciably from the sample taken at low tide, the following analytical figures being obtained :—

Table 41.

Hotwells Spring.				Parts per 100,000.		
Total solids	...	...	100·0	Silica	... SiO <sub>2</sub>	1·9
Mineral matter	...	...	88·5	Iron and Alumina		0·7
Loss on ignition	...	...	11·5	Fe <sub>2</sub> O <sub>3</sub> and Al <sub>2</sub> O <sub>3</sub>		
Chlorine as Chlorides	...	...	7·0	Lime	... CaO	20·5
Total Oxidised Nitrogen	...	...	0·55	Magnesia	... MgO	4·5
Nitrites	...	...	nil	Sulphate	... SO <sub>3</sub>	27·8
Free Ammonia	...	...	·0006	Sodium Oxide	Na <sub>2</sub> O	10·7
Albuminoid ammonia	...	...	·001	Chlorine	... Cl.	7·0
Total Hardness (Clark's Scale)	...	...	35°	Carbon dioxide	CO <sub>2</sub>	5·4
Permanent Hardness (Clark's Scale)	...	...	19°	Nitrate	NO <sub>3</sub>	2·5
pH	...	...	7·2	Mineral matter		81·0

The water from this historic well has not changed in mineral character to any great extent since the analysis of 15 years ago. Although the chemical figures were very satisfactory, the water was not considered to be suitable for drinking purposes until the bacteriological results were greatly improved.

Eighty-one samples of water from wells were examined, seventy of them being condemned as unfit for drinking purposes, and seven samples of rain water were similarly condemned.

The two samples of swimming lake water fulfilled the conditions suggested by the National Association of Bath Superintendents.

Thirty-nine samples of water were examined for lead, in connection with experimental work on the action of hot water from a hot water system on new lead piping in conjunction with Dr. J. W. Thornton, of Bristol University. Although the city water is

hard (about 13°) and has a pH of about 7·7, yet it took about 5 months for the lead content to be reduced from 0·3 to 0·1 part per million. The highest amount found, under special conditions of time of exposure, temperature and length of piping was 2 parts per million.

These experiments emphasise the necessity of drawing off the stagnant water in new lead piping connected to a hot water system before being used for consumption. Probably the safer plan would be to refrain from using such hot water unless piping other than lead is used between the heater and the tap.

## PART V.

### Sewage, River and Sub-soil Samples.

In this section 721 samples were examined for various purposes. These are considered in detail below.

#### (a) River Avon.

(1) *Total septicity.* During the summer season 144 samples were taken from the tidal portion of the river and were examined for total septicity under the scheme set out in the Annual Report for 1935 (page 30).

The points at which samples were taken were Lysaght's Bridge, Langton Street Bridge, Vauxhall Bridge, Ashton Swing Bridge, Hotwells Pontoon, Sea Mills and Pill Ferry.

One sample was taken from the non-tidal portion of the river below Keynsham near Fry's outfall at a time when the factory sewage works appeared not to be functioning properly. This sample showed septicity (Sept. 16th).

In general, with regard to the tidal portion of the river the majority of low tide samples showed septicity while high tide samples were seldom septic.

This was also borne out by a sample taken on September 1st from Trym Creek at high tide which was non-septic.

(2) *Dissolved Oxygen.* Eight samples were taken by means of a small boat between Hotwells Pontoon and Sea Mills Reach on the 9th of September. Four were at high and four at low tide. The results, which are appended, show a great falling off in concentration of dissolved oxygen as the City is approached, at high tide, while at low tide dissolved oxygen is absent.

Table 42.

	Percentage of Saturation with dissolved Oxygen.	
	High Tide.	Low Tide.
Hotwells Pontoon ... ..	6·1%	nil
Below Clifton Outfall ...	30·4%	nil
Off Sneyd Park ... ..	78·0%	nil
Sea Mills Reach ... ..	92·4%	nil

Ten similar samples were taken in the non-tidal portions of the river between Saltford Lock and St. Anne's Board Mills.

The results again show a loss in dissolved oxygen as the City is approached from the fresh-water side.

**(b) Feeder Canal, Floating Harbour and River Frome.**

(1) *Total septicity.* Twenty-four samples for total septicity were taken, by permission of the Port of Bristol Authority's Harbour-master, from Cumberland Basin, Entrance Lock, Junction Lock and various points in the Floating Harbour. The great majority were non-septic. Exceptions occurred in samples from Entrance Lock and Cumberland Basin when these had been largely filled from the tidal portion of the river.

(2) *Dissolved Oxygen in Feeder Canal and Floating Harbour.*

Ten samples for dissolved oxygen were taken in September in the Feeder Canal, Floating Harbour, Cumberland Basin and Entrance Lock and on the same days two samples were taken from the River Frome at the entrance to its underground culvert in Wellington Place. The results show a gradual falling off in concentration of dissolved oxygen from Netham to Hotwells.

**(c) Severn estuary.**

Three samples were taken on August 26th at high tide for dissolved oxygen estimation. These samples were taken by arrangement with Messrs. P. and A. Campbell.

The results showed that whereas off Clevedon and Portishead, the percentage saturation of dissolved oxygen approximated to 100%, a falling off of nearly 20% was shown on nearing the mouth of the Avon.

**(d) Sewer sampling (405 samples).**

The nature of the sewage in the Coronation Road and Duckmoor Road main sewers (W and X) was investigated by series of samples taken during the fortnight, 17th—31st October.

In the usual way a set of manholes was opened and a small sample taken from each manhole every two hours. For each manhole a large bottle was set aside and the small samples were bulked over the twenty four hours into these bottles.

These bulked samples were then examined for Chlorine Demand, Oxygen absorbed from permanganate, chloride content and hydrogen ion concentration (pH).

In addition a sample was taken from each manhole at 6 a.m., noon, 4 p.m. and 10 p.m., and these samples were examined for Immediate Chlorine Demand. This provides a guide to the nature of the sewage, as to whether it be domestic or trade waste, flowing at various periods of the day.

In all, 328 samples were taken for Immediate Chlorine Demand and a further 77 bulked samples were taken for the more complete analysis outlined above.

Both sewers showed the presence of trade wastes in a more or less dilute form.

**(e) Malago Stream (37 samples).**

The Malago stream rises near Dundry and approaches Bristol by way of Bishopsworth, being polluted by infiltration from cesspits on the way. Soon after reaching St. John's Lane it enters a culvert



and shortly after divides into two branches. Both branches receive trade effluent largely from the several tanneries in Bedminster and a certain amount of domestic sewage.

The samples gave proof of the large amount of trade wastes present.

In all 37 samples were taken.

*Table 43.*

Place	Date	Time	Oxygen absorbed per 100,000	Chlorine Demand (ppm)	Suspended Material %
Upper Culvert (Manhole in Sargent St.)	26-27 Oct.	Bulked sample over 24 hours	168·8	74·9	0·06
Lower Culvert (Sampled from manhole in W.D. & H.O. Wills Yard)	31st Oct.	10.30 a.m.	284·0	1310·	0·14

(f) **Gas Works effluent** (9 samples).

*Effluent from proposed Ammonia recovery plant.*

Nine samples of this effluent were subjected to tests as to the suitability of the effluent for acceptance into the sewers.

Chlorine demand was at first taken as a basis, but, when the chlorine demand and oxygen absorbed from permanganate figures were found to be extremely high, the samples were examined with a view to discovering what delay in the septicity of sewage might be expected from the phenolic bodies present in the effluent.

Laboratory experiments showed that a delay in the incidence of septicity in sewage occurred, and that the amount of delay caused by 0·1 to 0·2% of the effluent is approximately equal to that produced by 10 parts per million of chlorine.

Two of the samples were examined to find whether it would be necessary to establish settling bays to remove the solid matter (calcium carbonate, etc.) added during purification. It was found that approximately half a ton per day of dry solids would be present, and the provision of settling bays was therefore necessary.

(g) **Miscellaneous sewerage samples.**

*Trade effluent* (3).

This was an investigation in connection with the effect of a 3% solution of chromic acid on the structure of brick, concrete and salt-glazed pipe sewers. The effect of a 3% solution of this acid was noted on a piece of concrete and a piece of earthenware pipe, and on allowing to stand for 4 hours at ordinary temperature, the concrete lost by solution and disintegration about 11% of its weight, and the earthenware pipe only 0·5%.

Also, 100cc. 3% chromic was neutralised by 2.34 grms. Soda (NaOH). This is equivalent to—

23.4 lbs. of soda	(NaOH)	} will convert 100 gallons of 3% chromic acid to chromate.
or 16.4 lbs. of lime	(CaO)	
or 29.3 lbs. of chalk	(CaCO <sub>3</sub> )	

But the intermediate stage by formation of dichromate would be sufficient, so that half of these quantities would render innocuous 100 gallons of 3% chromic acid.

Hence it was considered that the anodising bath of 3% strength when discharged into the sewer would not appreciably affect brick or salt-glazed pipe, but concrete would be attacked, and that neutralisation by adding 8—10 lbs. of lime per 100 gallons would render it innocuous.

Two other samples of trade effluent were examined; although they gave reactions for chromate, they possessed no free acidity and had no solvent action on chalk.

#### *Sewage (2).*

Two samples of sewage which were suspected to contain tannery waste, were examined for the presence of noxious gas. Carbon dioxide, carbon monoxide, hydrocyanic acid, sulphur dioxide, were not found on distillation, but about 6.5% w/v Sulphuretted hydrogen was evolved in one of the samples.

#### *Sewer gas (3).*

No reactions were given for sulphuretted hydrogen in three samples of air collected in a sewer, but despite these negative results, which were probably due to inability to obtain samples at unsafe concentrations, the presence of sulphuretted hydrogen was shown on lead papers when subjected to the air in the sewer for a sufficiently long period.

A deposit from a sewer consisted of chalk and organic matter.

#### *(h) Soils and sub-soil water.*

Fifty-seven samples were received from the city engineer in connection with the main drainage scheme. It is well known that mineral sulphates have a deleterious effect on concrete, and it was considered advisable to get information regarding the sulphate concentration of the soil and ground water through which the proposed concrete sewers would be laid. F. C. Ball of the Borough Engineer's Department, Southall, in a paper submitted to the Council of the Public Works, Roads and Transport Congress (1937) expressed the opinion that a concentration exceeding 30—40 parts per 100,000 of sulphuric anhydride (SO<sub>3</sub>) in the subsoil water, or 0.25 per cent. in the subsoil, was liable to have a deleterious effect on Portland cement concrete. In which case it would be necessary to apply precautions, either to avoid that particular strata if possible or protect the cement structure.

Hence, these figures were taken as limiting values, and of the 35 samples of subsoil water examined, 8 exceeded 30 parts of SO<sub>3</sub> per 100,000, varying between 33 and 97 parts per 100,000. The 22 samples of soil, after being extracted with dilute hydrochloric acid (1 : 1) gave figures well below 0.25% SO<sub>3</sub>, the highest being 0.12% with a moisture content of 22.4%.

At the same time, it was thought worth while to obtain the chloride content of these subsoil waters, and these figures varied between 1.1 and 14.5 parts of chlorine per 100,000.

## PART VI.

### Miscellaneous analyses.

- (a) Rag Flock Act.
- (b) Examinations for the Health Department.
- (c) Biological material.
- (d) Public Assistance Committee.
- (e) Agricultural Products Act.
- (f) Pharmacy and Poisons Act.

#### (a) Rag Flock Act.

Four samples were examined to see whether they conformed to the standard of cleanliness laid down in the Rag Flock Act.

The amounts of chlorine found were 26, 14, 11 and 8 parts per 100,000, which is below the limit of 30 parts permitted by the Act.

#### (b) Examinations for the Health Department.

The following samples were suspected of having caused illness : Pig's cheek brawn, and three meat pies consisting of pastry, egg and meat. Arsenic, lead and copper were proved to be negative, or at the most, present in negligible traces, and there appeared to be nothing of a poisonous nature as far as the chemical examination was concerned to cause illness.

A sample of strawberry jam, alleged to have caused illness with symptoms of vomiting and diarrhoea followed by pains in the limbs, was examined. Chemical and bacteriological examination revealed nothing to account for these symptoms and rats and mice fed on the jam remained healthy, as also did a member of the department after a test meal.

Three samples, consisting of bread, butter and milk pudding were examined for chloride content in connection with some clinical experiments on the intake and output of chlorides by patients on a light diet. The following figures were obtained :—

	Bread.	Butter.	Milk pudding.
Combined chlorine %	0.53	1.10	0.115
Equivalent to NaCl	0.87	1.81	0.19

One sample of oil, the use of which was suspected of causing skin irritation, contained 3.2% of phenols, expressed as cresylic acid.

#### (c) Biological material.

(1) A sample of urine from a patient, who was said to have had a history of exposure to lead, was examined, but only 0.02 part per million of lead was found, and this was the mean figure of three separate determinations.

This small trace of lead is less than the amount usually regarded as being present in normal urine.



(2) In connection with this case after death, the following specimens were examined for lead by the diphenyl-thio-carbazone extraction method :—

			Lead (Pb) parts per million.
End of femur	...	...	74
Shaft of femur	...	...	94
Marrow from bone	...	...	2·7
Kidney	...	...	0·4
Liver	...	...	5
Brain	...	...	2·7

According to work done by Roche Lynch, Slater and Osler in 1934 on the determination of traces of lead in biological materials, with special reference to bone (Analyst, 1934, p. 787) the amounts of lead found in a series of twenty normal bones varied between 14·5 and 146 parts per million of "fresh" bone. Hence only a normal amount of lead appeared to be present in the bones.

(3) Two further samples of urine were examined for lead. These were 24-hour specimens and gave the following results :

Volume of urine	...	404cc.	1560cc.
Lead, parts per million		0·19	0·084
Milligramme per 24 hours		0·08	0·13

From work done by Morton in 1936, urines from patients with no industrial connection with lead contained from nil to 0·11 parts per million of lead, or nil to 0·12 milligramme of lead per 24 hours.

Hence these samples contained about the maximum amount of lead found in normal urine.

(4) A specimen of vomit was examined for arsenic, the symptoms in the case suggesting the possibility of arsenic poisoning. Arsenic was not detected.

(5) A specimen was received which was reported to be "sputum blood." The sample was completely soluble in water, and on microscopical examination revealed no evidence of blood corpuscles. The specimen was a sticky mass consisting of a red sweetmeat.

(6) Sixteen specimens were received from the Coroner, consisting of the following : stomach, stomach contents, liver, heart, spleen, kidney, lung, brain, sigmoid colon, caecal region, small intestine (upper and lower end), blood, hair, nails and a pile remedy.

The pile remedy appeared to be Confection of Sulphur and Senna. No evidence of alkaloidal or synthetic poisons (with special reference to atophan), was detected in the specimens examined. Arsenic, antimony, mercury, oxalic acid, phosphorus, cyanide and phenols were not detected, and the only heavy metal to give well-marked reactions was bismuth. This was found in traces in the stomach and stomach contents, but chiefly in the upper end of the small intestine, yielding 0·1% expressed as bismuth oxy-carbonate. This small amount of bismuth was of little forensic interest.

An experiment was made by mixing a quantity of the above viscera with a known weight of atophan, and burying the mixture



in a box under ground for six months. After repeated extraction and purification, only a small residue was obtained which was quite different in appearance from that of atophan, showing that some change had taken place.

**(d) Public Assistance Committee.**

Three samples were examined for the above Committee. They were : yellow soap, carbolic soap and floor polish.

The sample of yellow soap contained 66·8% fatty acids, together with 10% of resin, and conformed in all respects to the specification.

The sample submitted as 15% Carbolic soap, contained 67·2% fatty acids, but only 1·3% tar acids as cresylic acid. This was probably a sample of the 2% carbolic soap, and, even so, fell below the specification in respect of tar acids.

The specification of the sample of Floor Polish (non-slip) was :— 5 lbs. of wax to 1 gallon of solvent together with 300 cc. antiseptic, consisting of 1% mercury perchloride in methylated spirits.

The polish was steam distilled, the solvent measured and the wax extracted with trichlorethylene. This yielded the equivalent of 5 lbs. of wax to 1·56 gallons of solvent.

Tests for the antiseptic were made, yielding well-marked reactions for alcohol and for chlorides in faint traces only, but tests for mercury were made with diphenyl carbazide with negative results.

Hence there was an excess of  $\frac{1}{2}$  gallon of solvent per 5 lbs. of wax, and presumptive evidence of the presence of the antiseptic was given only by the presence of alcohol and a trace of the chloride radicle.

**(e) Agricultural Products, etc., Act, 1928.**

The following samples of eggs were examined with the results as stated :—

*Table 44.*

E.G. 1	4 eggs ...	No chemical preservation and no evidence of removal of marks of origin.
„ 2	25 „ ...	(Hens, best selected, English new laid) Consisted of 13 duck eggs and 12 hen eggs, one of latter being stamped “cold stored.” No evidence of chemical preservation and contents were quite fresh.
„ 3	5 „ ...	Consisted of one duck egg, one cold store egg and 3 hen eggs, one of which was not above suspicion.
„ 4	4 „ ...	4 duck eggs showing no abnormalities.
„ 5	12 „ ...	Cold store eggs for experimental work on dyeing tests before and after removal of the “mark.”

All of these eggs were “candled,” and examined under the ultra-violet lamp. Also the shells were tested for silicate preservation, and for porosity.

(f) **Pharmacy and Poisons Act, 1933.**

Twenty-six samples were examined under this Act, and the following contained Phenols as defined in the Poisons List :—

Table 45.

No. P. and P.		% Tar acids
1	Disinfectant Fluid	16·5
25	" "	11·0
26	" "	7·0
6	Jeyes	23
15	" "	18·5
27	" "	7
11	Mortegg	6·0
29	" "	6·6
4	San Izal	23·0
21	" "	23·5
3	Sanitary Fluid	14·5
5	" "	14·5
8	Weed Killer	23

The above samples were sold, either as disinfectants or as weed killers. The tar acids consisted chiefly of cresol, and since the amount was less than 60%, all the samples were poisons included in Part II of the Poisons List.

P and P 7 was submitted as Sanitising Fluid. It contained about 6% sodium hypochlorite and 30% of salt, but no evidence of a substance in the Poisons List was given.

P and P 30 was a concentrated disinfectant in tablet form. No phenols were present, and a light oil was obtained on distillation, probably some chlorine derivative of a terpene. No substance in the Poisons List was detected.

P and P 10 and 22 were solutions of ammonia.

Specific gravity at 60°F.	·9597	·9633
% Ammonia (NH <sub>3</sub> ) w/w	9·8	9·0

Since these samples contained more than 5% w/w of ammonia, they were poisons included in Part II of the Poisons List.

P and P 16 was a solution of bath ammonia.

Specific gravity at 60°F	1·0113
% Ammonia w/w ...	0·5

This sample was a substance included in the third schedule of the Poisons Rules and therefore exempted from all control.

P and P 2. Ruby Balm contained Nitrobenzene, and was a Part II poison.

P and P 9 was a white solid, labelled "Meta" and is used as a substitute for methylated spirits, also as an insecticide. The solid was Metaldehyde, which is a poisonous substance when taken internally, but it is not mentioned in the Poisons List.

P and P 12 was a hair dye and consisted of two bottles, one containing a dark brown liquid and the other a colourless liquid. The dark brown liquid contained 2·5% of ammonia and 1% phenylene diamine. The colourless liquid gave some of the reactions for

quinine and contained 5.5% hydrogen peroxide. Since this hair dye contains phenylene diamine, it is a Part II poison which is not exempted by the third schedule of the Poisons Rules, and the labelling requirements of the Seventh Schedule must be applied.

P and P 20. This was another kind of hair dye, consisting of a bottle of brown liquid, and some white tablets. Tests applied to the brown liquid rather pointed to the presence of p-amino-phenol and the provisions of the seventh schedule regarding labelling requirements would appear to satisfy the Act. The white tablets were a solid compound of 34% hydrogen peroxide with urea.

P and P 17 was a sample of Nicotine dust, and contained 3.64% Nicotine incorporated with an inert substance such as kaolin or fuller's earth. Nicotine is a Part II poison included in the First Schedule of the Poisons Rules, and as such, may be sold by a listed seller himself or by a responsible deputy. The sale must be recorded in the poisons book and signed by the purchaser.

P and P 28 was a rat and mouse exterminator, and consisted of a chocolate-brown soft paste. Arsenic, phosphorus and barium were absent, and the paste appeared to be a mixture of fat and red squill.

## PART VII.

### Gas Undertakings Acts, 1920—1934.

A special Prescription, which superseded all other prescriptions, came into force on 1st April, 1938. This was issued by the Gas Referees in consequence of the revision of boundaries effected under the provisions of various Acts and Orders. The schedule of this prescription increased the number of tests by one at each of the three testing places, so that the prescribed number of tests per quarter is now

65 at Avon Street,  
52 at Stapleton Road  
and 39 at Canons Marsh,

making 624 testings for the year, including 80 allocated to Sundays.

Since the gas supplied by the Bristol Gas Company is not ordinarily saturated with water vapour, a special supplementary Prescription was issued by the Gas Referees in connection with non-saturated gas. This came into force on 1st May, 1938 and is supplementary to the special Prescription mentioned above. This prescribed that the calorific value of the gas supplied shall be the number of British Thermal Units (gross), produced by the combustion of one cubic foot of gas, measured at 60°F under a pressure of 30 inches of mercury, with the proportion of water vapour which it contains as it passes through the service pipes supplying gas for the official tests of calorific value. Also hygrometric apparatus was prescribed for determining the proportion of water vapour in the gas passing through the service pipe. Hence, since the 1st May, 1938, the dew point of the gas has been determined after each testing at each of the three stations, and the necessary correction applied to the calorific value as obtained either by the recording or non-recording calorimeter.

In addition, the Fairweather recording calorimeter at the Stapleton Road works was approved by the Gas Referees for use



in official tests as from midnight, 30th June, 1938. Hence, there are now three Fairweather continuous recording calorimeters in operation. Each of these calorimeters at the three stations must be inspected, adjusted, and its record verified at least twice a week, two verifying tests being made at each visit. The recording chart is renewed each week, read for each six-hourly period, the day's average obtained and finally the average for the week. At each visit, the continuous recording chart of the pressure gauge is examined, and also a three minute test made for the purity of the gas (i.e., the absence of sulphuretted hydrogen). A detailed report containing the results of all of these tests is sent each week to the Company and to the Gas Referees.

On any occasion on which any of the Recording calorimeters are out of action, tests are made with the non-recording calorimeter in accordance with the number of tests specified in the schedule.

At Avon Street testing station, there was a continuous record for the whole of the first quarter of the year, and no adjustment of any kind was made to the four components, i.e., rates of gas supply and water supply, variations of gas volume from the normal and the pen mechanism. The number of days in the year for which calorific values were ascertained by the recorder was 355, and it was only necessary to make three non-recording tests. The average calorific value at this station was 480·7 B.Th.U. (gross) per cubic foot, the maximum pressure being 7·4 inches of water and the minimum 3·3 inches.

At the Canons Marsh Station, the record was continuous for the first and third quarters of the year. The average calorific value for the year was 480·7, ascertained from the recorder on 352 days, and 4 non-recording tests. The maximum pressure measured 8·7 inches of water and the minimum 3·0 inches.

At the Stapleton Road station, the calorific value for the first half of the year was obtained from 103 tests using the official Boys non-recording calorimeter. The highest test gave 494·6 B.Th.U. and the lowest 472·6 B.Th.U.

When the Fairweather recording calorimeter was made official on the 1st July, 1938, there was a continuous record for the whole six months, i.e., the average calorific value was ascertained on 184 days with no non-recording test. The average calorific value for this station was 480·6 B.Th.U. and the maximum and minimum pressures were 7·0 and 3·0 inches of water respectively.

Although the maintenance and the attention necessary to ensure continuity of the recording charts entail a large amount of work to be given to these delicate pieces of mechanism, it must be said that the recording calorimeters behaved extremely well throughout the year, and reflects considerable credit on my staff and that of the Company.

The average calorific value for the whole undertaking for the quarter is ascertained from all results obtained by recording and non-recording calorimeters by the method prescribed by the Gas Referees in the current general notification, and quarterly reports are sent to the Gas Referees, the Bristol Gas Company, the Corporation of Bristol, and the Urban District Councils of Kingswood,



Keynsham, and Mangotsfield. The following table gives the figures for the four quarters of the year 1938 :—

*Table 46.*

Quarter ended.	Calorific value B.Th.U. (gross) per cubic foot.	Pressure.	H <sub>2</sub> S.
31st March ...	480·5	above 2 inches	nil
30th June ...	480·6	" " "	"
30th September	480·7	" " "	"
31st December	480·8	" " "	"

The declared calorific value is 480 B.Th.U. (gross) per cubic foot.

## PART VIII.

### Atmospheric pollution.

The degree of pollution of the atmosphere of the city was measured for the fourth year, the investigation having commenced as far as Bristol is concerned on January 1st, 1935. Several large cities have been making observations for more than 20 years.

The pollution is measured by the collection and analysis of the insoluble and soluble matter which is deposited from the air in a deposit gauge, consisting of a large glass bowl of known area, connected to a glass reservoir. On the last day of each month this reservoir containing the rain water and deposit is replaced by a clean one.

Two deposit gauges are set up, one at the Zoological Gardens, Clifton, on the flat roof of the elephant house, and the other on the flat roof of the Water Works Buildings in Marsh Street, these two positions representing a residential and an industrial area in the centre of the city respectively. I acknowledge the courtesy of the gentlemen concerned for permission to place the gauges in these two positions.

The monthly results with totals for the year are given in tables 47 and 48 in tons per sq. mile and are also shown graphically.

As in previous years, the pollution at the Water Works was about twice that at the Zoo, as measured by the amount of total solid matter (suspended and dissolved) deposited. Or, taking the figures for tar and soot, 62 tons of soot and 2·4 tons of tar were deposited per square mile during the year in the centre of the city, whereas the Zoo figures were 19 tons of soot and nearly 1 ton of tar, which, judged on these figures, indicates that the pollution in the centre of the city is more like 3 to 1.

However, from a comparison of the figures for the four years since measurements were made, there is a steady and gradual decrease in the amount of deposit at both positions and hence there appears to be a steady and gradual improvement in the atmospheric conditions at both positions in the city.

It will be noted from the tables that the figures for chlorine (as chloride) and the soluble mineral matter are abnormally high in October at both stations. This may be caused by the heavy rain-fall, together with southwesterly gales, blowing over salt spray from

the sea, Bristol being sufficiently close to the seaboard for this to be possible. At any rate these high figures have been noticed in previous years at or about the same period.

Again, taking the figures for total solid matter for the winter months (October to March) and comparing them with those for the summer months (April to September), and similarly for the tar and soot figures, we get the following ratios :—

			Total solids.	Tar and soot.
Zoo	...	Winter : summer	1·24 : 1	0·94 : 1
Water Works	„	„	1·31 : 1	1·3 : 1

These ratios are more or less those one would expect, since the increase of the winter as compared with the summer concentration must be mainly due to domestic fires, although the tar and soot appears to be fairly equal during winter and summer at the Zoo position. Also, it is to be noted that the site in the centre of the city would perhaps be more accurately described as a business and office site, rather than an industrial one, since so many industries are gradually moving to the outskirts of the city.

This branch of work is done in conjunction with the Department of Scientific and Industrial Research, the figures of analysis being reported to the Department each month.

The detailed returns for each station are tabulated in a report issued by the Department of Scientific and Industrial Research, and the 24th report for the year ended March 31st, 1938 is very instructive and interesting to supporters of atmospheric reform.

The report classifies the degree of pollution of the air at each station, based on the annual mean monthly deposit. From this report it appears that the air at the Zoo is placed in Class A which represents "clean" air, and that at the Water Works, Class B or "fairly clean." Also taking the mean monthly deposit at the Zoo as 10·2 tons per square mile, there are 98 stations with figures greater than this figure and 16 stations with less, which is a very satisfactory position.

Regarding the position at the Water Works in the centre of the city, the mean monthly deposit is 22·7 tons per square mile. In this case, there are 30 stations giving figures in excess of this figure and 84 stations giving lower figures, but of course a number of the latter are purely suburban areas.

The average of the mean monthly deposits for all stations is about 18·5 tons per square mile, the highest being 50·3 and the lowest 4·5 tons per square mile, so that the air in the centre of Bristol would still appear to occupy a position midway between the cleanest and the most polluted.

There are 124 deposit gauge stations throughout the country, and about 80 municipal authorities are co-operating in the investigation of atmospheric pollution, which shows the growing attention being given to the subject. Also a regional smoke abatement Council has recently been set up in Bristol and district, and it is hoped, that by the discussion of matters relating to smoke abatement, giving advice in difficult cases, maintaining liaison with other regional councils, propaganda, education and research, and the co-operation with industry, that a cleaner and purer air supply will be the result.

YEAR 1938.

Composition of solids collected in deposit gauge at Zoological Gardens, Clifton, in tons per square mile.

Table 47.

Month	Rainfall in inches	Total Solid matter (suspended and dissolved)	Insoluble solid matter		Soluble solid matter		Sulphate (as SO <sub>3</sub> )	Chlorine (Cl.)	Ammonia (NH <sub>3</sub> )	Lime (CaO)
			Tar	Carbonaceous matter other than tar	Mineral matter (ash)	Loss on Ignition				
January ...	4.65	11.71	0.04	1.86	2.15	1.63	1.33	2.93	0.17	1.00
February ...	1.23	8.23	0.14	1.45	2.10	1.10	0.73	1.41	0.06	0.71
March ...	0.65	7.35	0.07	1.66	1.68	1.06	1.23	0.49	0.18	0.91
April ...	0.14	6.74	0.04	1.14	2.60	0.95	0.63	0.49	0.06	0.79
May ...	1.93	10.24	0.10	2.44	2.82	1.70	0.96	0.91	0.25	1.05
June ...	2.14	11.13	0.10	2.00	2.59	2.14	0.97	1.04	0.07	1.32
July ...	3.53	9.42	0.07	1.38	1.66	1.83	1.25	0.90	0.05	1.12
August ...	3.54	10.01	0.05	1.64	1.80	1.56	1.50	0.92	0.09	0.89
September ...	1.74	7.18	0.11	1.29	1.26	1.17	1.44	0.27	0.10	0.85
October ...	5.68	20.77	0.08	1.66	1.73	4.85	2.05	5.88	0.15	0.81
November ...	4.57	11.16	0.08	1.65	1.44	1.78	1.84	2.16	0.24	0.55
December ...	3.68	8.45	0.05	0.98	1.07	2.53	3.51	1.64	0.21	0.55
Totals for the year 1938	33.48	122.39	0.93	19.15	22.90	22.30	17.44	19.03	1.63	10.55
Mean Monthly deposit ...	2.79	10.20	0.08	1.60	1.91	1.86	1.45	1.59	0.14	0.88

## YEAR 1938.

Composition of solids collected in deposit gauge at Bristol Water Works building, Marsh Street, in tons per square mile.

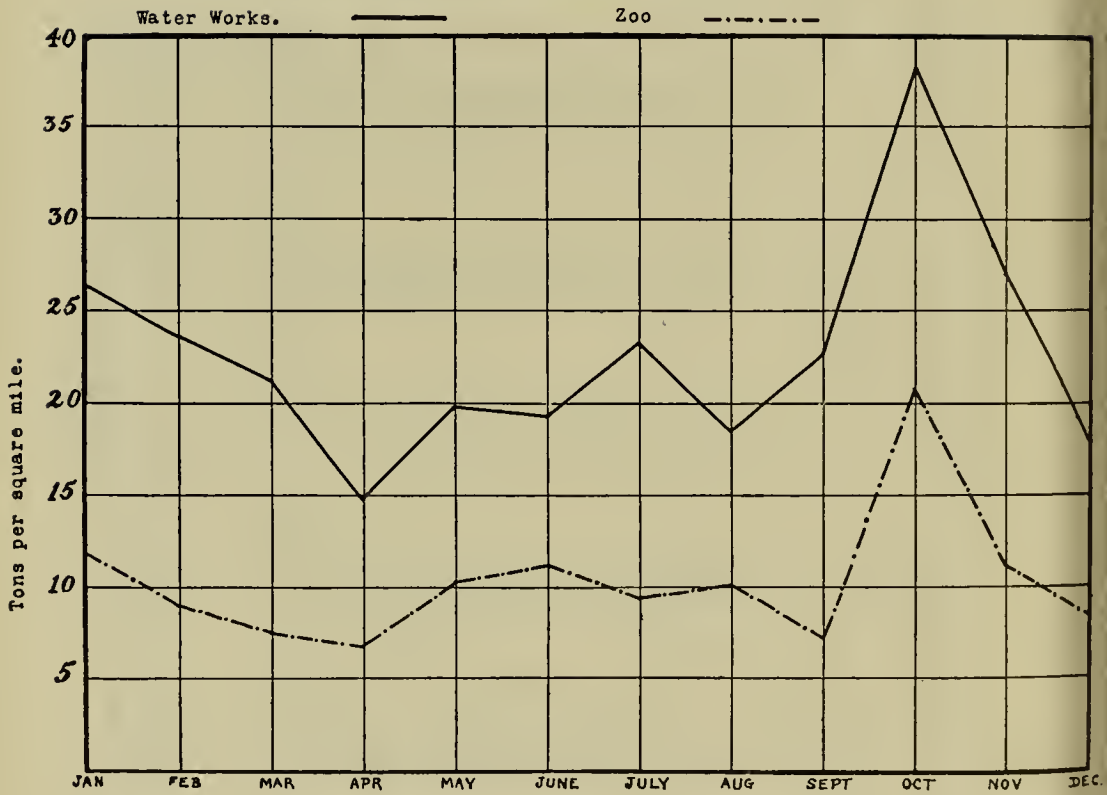
Table 48.

Month	Rainfall in inches	Total Solid matter (suspended and dissolved)	Insoluble solid matter			Soluble solid matter		Sulphate (as SO <sub>3</sub> )	Chlorine (Cl.)	Ammonia (NH <sub>3</sub> )	Lime (CaO)
			Tar	Carbonaceous matter other than tar	Mineral matter (ash)	Loss on Ignition	Mineral matter (ash)				
January ...	4.29	26.34	0.37	8.86	9.62	1.94	5.55	2.81	4.01	0.12	1.94
February ...	1.21	23.76	0.21	4.70	9.54	5.88	3.43	1.76	2.05	0.06	1.99
March ...	0.47	21.29	0.14	6.56	7.97	1.66	4.96	2.29	0.66	0.06	1.65
April ...	0.15	14.81	0.12	3.11	6.07	1.95	3.56	1.23	0.78	0.06	1.53
May ...	1.90	19.71	0.13	4.24	6.64	3.22	5.48	1.64	1.20	1.17	1.78
June ...	1.90	19.19	0.14	5.06	5.49	1.70	6.80	1.94	1.30	0.02	1.51
July ...	3.75	23.27	0.18	4.87	6.27	4.86	7.09	2.88	1.47	0.02	1.73
August ...	3.26	18.41	0.16	4.94	5.70	2.54	5.07	2.12	0.90	0.06	1.37
September ...	2.21	22.67	0.21	4.82	6.28	4.36	7.00	3.10	0.82	0.05	1.81
October ...	5.21	38.22	0.20	5.14	6.85	6.67	19.36	3.65	8.52	0.11	2.43
November ...	4.39	26.92	0.22	5.93	6.68	4.09	10.00	2.47	3.31	0.11	1.67
December ...	3.41	17.96	0.29	3.70	4.66	3.31	6.00	4.97	1.98	0.10	1.40
Totals for the year 1938	32.15	272.55	2.37	61.93	81.77	42.18	84.30	30.86	27.00	1.94	20.81
Mean monthly deposit ...	2.68	22.71	0.20	5.16	6.81	3.52	7.03	2.57	2.25	0.15	1.73



## ATMOSPHERIC POLLUTION. 1938.

Total Solid Matter (Suspended and Dissolved.)



1938

**REPORT**  
**OF THE**  
**PORT MEDICAL OFFICER OF HEALTH**

R. H. Parry, M.D., M.R.C.P. (Lond.), D.P.H.

---

Bristol Port Sanitary Authority.

**BRISTOL PORT HEALTH COMMITTEE.***Chairman*

ALDERMAN E. T. COZENS, J.P.

ALDERMAN J. J. MILTON, J.P.

COUNCILLOR G. A. W. ALLAN

COUNCILLOR J. COLE

COUNCILLOR R. N. HARRISON

COUNCILLOR T. JEFFERIS

COUNCILLOR V. J. ROBINSON

COUNCILLOR SIR LIONEL

GOODENOUGH TAYLOR, J.P.

**PORT HEALTH STAFF.***\*Port Medical Officer of Health*

R. H. PARRY, M.D., M.R.C.P. (Lond.), D.P.H.

*\*Deputy Port Medical Officer of Health*

I. G. DAVIES, M.B., M.R.C.P. (Lond.), D.P.H.

*\*Assistant Port Medical Officers*

F. W. BUNTING, M.B., Ch.B., D.P.H.

R. J. I. BELL, M.R.C.S., L.R.C.P., D.P.H.

D. T. RICHARDS, M.R.C.S., L.R.C.P., D.P.H.

J. G. HAILWOOD, M.D., M.R.C.S., L.R.C.P., D.P.H.

A. M. FRASER, L.R.C.P.E., L.R.C.S.E., D.P.H.

*Inspectors**\*Chief Inspector, J. A. ROBINSON, 1.2.*

T. E. HOWICK, 1.2.4.

C. W. GOULD, 1.2.3.

I. E. DAVIES, 1.2.3.

*Assistant Port Officers*

C. W. BASTON

W. T. BOWEN, 3.

*Rat Catchers**\*C. H. RYMAN**\*C. SCORRER**\*F. PEACOCK*

E. R. POOLE

1. Certificated Sanitary Inspector.
2. Certificated Meat and Food Inspector.
3. Master Mariners' Certificate.
4. Liverpool University Cert. San. Science.

*\* Also engaged in the city.***INSPECTION OF ALIENS.***Supervising Medical Inspector, R. H. PARRY.**Medical Inspectors*

I. G. DAVIES

R. J. I. BELL

F. W. BUNTING

D. T. RICHARDS

J. G. HAILWOOD

A. M. FRASER

## REPORT ON THE WORK OF THE PORT HEALTH AUTHORITY.

BY

I. G. DAVIES, M.B., M.R.C.P. (Lond.), D.P.H.

*Deputy Medical Officer of Health.*

---

As in previous years this Report is prepared on the lines indicated in a memorandum issued by the Ministry of Health to Port Health Authorities (Memorandum 204/S.A.).

Certain permanent arrangements which have been fully described in previous reports have not been repeated in this report.

The port of Bristol comprises the Avonmouth docks, the City docks, and the Portishead docks, which have a total water area of 188 acres, and a dock quayage of 37,220 feet. The Corporation of Bristol are the owners of the entire dock system, the administration of which is vested in a committee, the Port of Bristol Authority.

During the year the existing arrangements for the port regarding medical inspection, sanitary inspection and disinfection were extended so as to include the Bristol Airport, in accordance with the Public Health (Aircraft) Regulations 1938 which came into force on 1st July, 1938.

While at present the "foreign" traffic at the airport is not sufficient to make any additional call upon the port health department, it is evident that future development of air routes and traffic will considerably intensify the problem of keeping this country free of dangerous infectious disease, since the time elapsing between departure from a foreign country and arrival here may fall within the incubation period of a dangerous infectious disease.

Special attention has been paid throughout the year to the hygiene of crews' spaces and to certain matters concerning imported food, in particular the copper content of tomatoes. These matters are referred to later in the report.

For some of the figures used in the compilation of the tables in this report I am indebted to the officers of the Port of Bristol Authority and H.M. Customs and Immigration Officer. To these and to the Haven Master and Pilots and to the surveyor's department of the Board of Trade the grateful thanks of the department are due for their courtesy and willing cooperation throughout the year.



## I.—Amount of Shipping entering the Port during the year 1938.

(AVONMOUTH, PORTISHEAD AND CITY DOCKS)

Table A.

	Number *	Tonnage *	Number inspected		Number reported to be defec- tive	Number of vessels on which defects were remedied	Number of vessels reported as having or having had during the voyage infectious disease on board
			By the medical officer of health	By the sanitary in- specter			
Foreign { Steamers †Motor Sailing ... Fishing ...	1,166	3,036,614	201 20	1,023 143	217 8	217 8	24 —
	—	—	—	—	—	—	—
	—	—	—	—	—	—	—
	—	—	—	—	—	—	—
Total Foreign ...	1,166	3,036,614	221	1,166	225	225	24
Coast- wise { Steamers †Motor Sailing Fishing }	7,404	970,669	— — — —	668 538 — —	102 — — —	102 — — —	1 — — —
	—	—	—	—	—	—	—
	—	—	—	—	—	—	—
	—	—	—	—	—	—	—
Total Coastwise ...	7,404	970,669	—	1,206	102	102	1
Total foreign and coastwise ...	8,570	4,007,283	221	2,372	327	327	25**

† Includes mechanically propelled vessels other than steamers.

\* Figures supplied by Port Authority. The foreign tonnage includes vessels entering from a coastwise port to load for a foreign port.

\*\* Excluding vessels having venereal disease on board.

## II.—Character of Trade of Port.

Table B.

(a) Passenger Traffic during 1938.

No. of passengers		1st Class	2nd Class	3rd Class	Trans- migrants	Total
Inwards	Aliens	166	—	—	—	166
	British	2,680	—	—	—	2,680
Outwards	Aliens	73	—	—	—	73
	British	2,069	—	—	—	2,069

The foreign ports from which passengers principally arrived were:—

Kingston (Jamaica), Trinidad, U.S.A., Canadian, Indian and Scandinavian ports.

(b) *Cargo Traffic.*

## PRINCIPAL IMPORTS

Commodities							
Grain	...	...	...	...	Tons	—	946,901
Oilseeds	...	...	...	...	"	—	76,775
Feeding stuffs for animals	...	...	...	...	"	—	202,963
Cereal products for human consumption	...	...	...	...	"	—	24,498
Fruit :							
Bananas	...	...	...	Bunches	...	6,101,983	Tons 80,519
Oranges and lemons	...	...	...	Cases	...	207,080	" 8,251
Other green fruit	...	...	...	Tons	...	—	7,276
Canned	...	...	...	"	...	—	8,206
Dried	...	...	...	"	...	—	5,719
Metals and ores :							
Brass	...	...	...	"	...	—	157
Copper	...	...	...	"	...	—	26,452
Iron	...	...	...	"	...	—	16,079
Lead	...	...	...	"	...	—	3,699
Spelter	...	...	...	"	...	—	1,680
Zinc concentrates	...	...	...	"	...	—	111,194
Paper	...	...	...	"	...	—	45,158
Petroleum...	...	...	...	"	...	—	899,980
Provisions :							
Bacon	...	...	...	"	...	—	1,041
Butter	...	...	...	"	...	—	12,633
Cheese	...	...	...	"	...	—	10,158
Lard	...	...	...	"	...	—	2,973
Frozen meat	...	...	...	"	...	—	14,891
Sugar :							
Refined	...	...	...	"	...	—	4,873
Unrefined	...	...	...	"	...	—	6,113
Glucose	...	...	...	"	...	—	1,355
Molasses	...	...	...	"	...	—	27,371
Tobacco	...	...	...	"	...	—	44,628
Wine	...	...	...	Pipes	...	7,210	Tons 4,326
"	...	...	...	Dozens	...	4,006	" 100
Spirits	...	...	...	Pipes	...	141	" 85
"	...	...	...	Dozens	...	42,961	" 859
Wood and timber	...	...	...	Tons	...	—	112,842
Wood pulp	...	...	...	"	...	—	127,736
All other goods	...	...	...	"	...	—	168,910
Total Foreign Imports						...	3,006,401

The Port of Bristol receives ten per cent. of the United Kingdom imports of grain and of petroleum and more than twenty-five per cent. of the tobacco and banana imports.

## PRINCIPAL EXPORTS

Commodities						Tons	
Chemicals :							
Saltcake	...	...	...	...	...	4,600	
Other kinds	...	...	...	...	...	4,197	
Clay	...	...	...	...	...	2,735	
Coke	...	...	...	...	...	1,609	
Earths	...	...	...	...	...	1,198	
Iron	...	...	...	...	...	915	
Paper	...	...	...	...	...	128	
Strontia	...	...	...	...	...	1,595	
All other goods	...	...	...	...	...	20,687	
Total Foreign Exports						...	37,664

(c) *Foreign ports from which vessels arrive.*

The port of Bristol trades with all parts of the world and the list printed in 1934 is typical of the foreign ports from which vessels arrive in any year.

### III.—Water Supply.

(1) *Source of supply for (a) the port, (b) shipping.*

The water used in the port and by ships in the docks is supplied by the Bristol Water Works Company. Hydrants are provided on the quaysides.

Samples of ships' water are taken from time to time. Two samples were taken during 1938. Twenty-three water tanks were required by the port inspectors to be cleansed.

(2) *Hydrants and hosepipes.*

As a precaution against contamination, water is allowed to run free for a few minutes before it is permitted to enter ships' storage tanks. The hosepipes are also periodically examined and cleansed by the water works staff.

(3) *No. of water boats and their sanitary condition.*

There are no water boats in use at Avonmouth or Portishead.

One water boat is in use at Bristol docks. This vessel is inspected periodically by the port sanitary inspector, and is cleansed and cement washed when necessary.

### IV.—Port Sanitary Regulations, 1933.

(1) *Arrangements for dealing with declarations of health.*

(2) *Boarding of vessels on arrival.*

(3) *Notification to the authority of inward vessels requiring special attention.*

The above headings were dealt with in detail in the annual report for 1933. These arrangements, together with the arrangements made under article 6 of the Port Sanitary Regulations requiring notification by wireless message of any unusual circumstances on board by the master before arrival at the port, have all worked satisfactorily throughout the year under review. The latter arrangements, concerning the sending of wireless messages, were given in the report for 1934.

(4) *Mooring Stations.*

These remain as detailed in my report for 1933.

- (5) *Particulars of any standing exemptions from the provisions of article 14.*

At this port every ship from foreign is met at the lock gates by a port sanitary inspector. The medical officer on duty has already been notified of the expected arrival of the ship and of the necessity for medical inspection. In every case therefore he is awaiting the arrival of the ship and in this way no delay is caused either to the ship or to its personnel.

No standing exemptions under article 14 (1) have been issued.

- (6) *Experience of working of article 16.*

- (7) *What, if any, arrangements have been made for :—*

- (a) *Premises and waiting rooms for medical examinations.*
- (b) *Cleansing and disinfection of ships, persons and clothing and other articles.*
- (c) *Premises for the temporary accommodation of persons for whom such accommodation is required for the purposes of the regulations.*
- (d) *Hospital accommodation available for plague, cholera, yellow fever, smallpox, and other infectious diseases.*
- (e) *Ambulance transport.*
- (f) *Supervision of contacts.*

These matters were fully dealt with in the report for 1933.

- (8) and (9) *Arrangements for (a) bacteriological or pathological examination of rats for plague and (b) for other similar examinations.*

During the year increased attention was paid to the sampling of the rat population of the quaysides for rodent plagues.

All bacteriological and pathological examinations in this connection together with the laboratory investigation of all imported food stuffs, are carried out at the preventive medicine laboratories of the University of Bristol.

During the year under review, 701 rats were caught on ships and 4,748 rats and 340 mice were recovered from sheds and quays at the docks.

Of these, 981 were examined for plague, 263 from ships at the ports and 708 from sheds and quays at the docks.



(10) *Arrangements for the diagnosis and treatment of venereal disease amongst sailors under international arrangements.*

Inquiry is always made of the responsible officers on all ships concerning the possibility of venereal disease amongst the crew and full directions are given to the crew as to the means of obtaining treatment.

The following particulars relate to seamen treated at the municipal clinic during the year :—

1937		1938	DIAGNOSIS.			
			Syph.	Soft Sore	Gon.	Non-Ven.
	CASES					
209	Total	184	71	4	65	44
169	New cases	161	55	4	59	43
	ATTENDANCES					
756	Total	625	199	16	299	111
424	New cases	525	114	16	285	110
	INPATIENTS					
5	Total	8	4	1	3	—
4	New cases	7	3	1	3	—
	INPATIENT DAYS—					
148	Total	184	72	54	58	—
112	New cases	149	37	54	58	—

*Table C.*

**Cases of infectious sickness landed\* from vessels.**

Disease	No. of cases during 1938		No. of vessels concerned	Average no. of cases for previous 5 years
	Passengers	Crew		
<i>Infectious diseases, including :</i>				
Typhoid ... ..	—	1	1	0·2
Measles ... ..	—	5	3	0·2
Dysentery... ..	1	—	1	0·2
Pulmonary tuberculosis...	—	1	1	4·6
Malaria ... ..	—	2	2	4·8
Pneumonia ... ..	—	4	4	1·4
Venereal disease ... ..	—	8	8	24·4

*Other diseases not included in Table C above landed\* from vessels.*

Disease	No. of cases during 1938		No. of vessels concerned	Average no. of cases for previous 5 years
	Passengers	Crew		
Rheumatism ... ..	—	1	1	2·8
Diseases of nervous system ...	—	1	1	7·6
Diseases of respiratory system ...	—	3	3	6·4
Diseases of digestive system ...	—	9	9	18·2
Diseases of skin and cellular system	—	4	2	10·4
Diseases of bones and organs of locomotion ... ..	—	3	3	3·8
Traumatism ... ..	—	3	3	5·4
Ill-defined ... ..	—	13	13	22·2

\* Includes only cases requiring medical attention, but all were not removed from ships to hospital.

*Table D.*

**Cases of infectious sickness on vessels during voyage but disposed of prior to arrival.**

Disease	No. of cases during 1938		No. of vessels concerned	Average no. of cases during previous 5 years
	Passengers	Crew		
<i>Infectious diseases, including :</i>				
Typhoid ... ..	—	1	1	0·6
Measles ... ..	1	5	2	0·0
Influenza ... ..	—	1	1	4·0
Malaria ... ..	1	3	4	4·0
Dysentery ... ..	—	2	2	3·8
Other infectious diseases (mumps)	1	1	2	2·0
Venereal disease ... ..	—	1	1	2·2

*Other diseases not included in Table D above on vessels during voyage but disposed of prior to arrival.*

Disease	No. of cases during 1938		No. of vessels concerned	Average no. of cases during previous 5 years
	Passengers	Crew		
Diseases of circulatory system ...	1	2	3	2·0
„ „ respiratory system ...	—	1	1	2·6
„ „ digestive system ...	—	6	5	4·6
„ „ bones and organs of locomotion ... ..	—	1	1	0·0
Traumatism... ..	—	1	1	2·2
Ill-defined ... ..	—	8	8	6·0

### V.—Measures against Rodents.

- (1) *Steps taken for detection of rodent plague (a) in ships in the port, (b) on quays, wharves, warehouses, etc.*
- (2) *Measures taken to prevent the passage of rats between ships and the shore.*
- (3) *Methods of deratisation of (a) ships, (b) premises in the vicinity of the docks and quays.*

Such steps were given in detail in the reports for 1933 and 1934.

- (4) *Measures taken for the detection of rat prevalence in ships and on shore.*
- (5) *Rat-proofing.*

These matters continue as detailed in previous reports, particularly those for 1933 and 1934.

Nineteen deratisation and 91 deratisation exemption certificates were issued during the year 1938. Deratisation was carried out as follows :—

10 vessels by sulphur.

9 vessels by cyanide.

If there is any evidence of considerable infestation deratisation by trapping is not undertaken as it is considered that it cannot be efficiently carried out with certainty.

Five hundred and twenty four rats were recovered from these vessels.

The following table deals with the certificates of deratisation and exemption issued during the last five years.

Year	1934	1935	1936	1937	1938
Ships fumigated ... ..	29	19	19	16	19
Rats found on these ships :	739	623	306	293	524
Average number of rats per ship	25·5	32·8	16·1	18·3	27·5
But it is relevant to note the greatest number of rats on a single ship was ... ..	234	167	84	99	95
Number of exemption certificates issued ... ..	117	126	127	115	91
Rats found on these ships by trapping previous to issuing exemption certificates ...	19	7	10	3	—





Table G.

*Measures of rat destruction on plague "infected" or "suspected" vessels or vessels from plague infected ports arriving in the Port during the year.*

Total number of such vessels arriving.	Number of such vessels fumigated by SO <sub>2</sub>	Number of rats killed.	Number of such vessels fumigated by HCN.	Number of rats killed.	Number of such vessels on which trapping, poisoning, etc., were employed.	Number of rats killed.	Number of such vessels on which measures of rat destruction were not carried out.
1.	2.	3.	4.	5.	6.	7.	8.
42	1	95	—	—	35	—	6*

\* These ships were all examined for rat indications, but no measures were taken, either because there was no evidence of rats, or because of very short stay in port.

Table H.

*Deratisation certificates and deratisation exemption certificates issued during the year.*

Net Tonnage.	No. of ships.	No. of deratisation certificates issued.					No. of deratisation exemption certificates issued.	Total certificates issued.
		After fumigation with			After trapping, poisoning, etc.	Total.		
		H.C.N. and Sulphur.						
		H.C.N.	Sulphur					
1.	2.	3.	4.	5.	6.	7.	8.	9.
Ships up to 300 tons ...	10	—	—	—	—	—	10	10
“ from 301 tons to 1,000 tons	19	—	—	—	—	—	19	19
“ from 1,001 “ 3,000 “	32	1	8	—	—	9	23	32
“ from 3,001 “ 10,000 “	49	8	2	—	—	10	39	49
“ over 10,000 “ ...	—	—	—	—	—	—	—	—
TOTALS ...	110	9	10	—	—	19	91	110

## VI.—Hygiene of crews' spaces.

Table J.—Classification of nuisances.

Nationality of vessel.	Number inspected during the year.	Defects of original construction.	Structural defects through wear and tear	Dirt, vermin and other conditions prejudicial to health.
British ...	1,811	10	97	279
Other nations	561	—	18	61
Totals ...	2,372	10	115	340

The arrangements for the reciprocal reporting of defects in crews' quarters, made with the surveyors' department of the Board of Trade, are now well established as a part of the normal routine.

There is a marked improvement in the accommodation provided which naturally is seen first in ships of recent construction. The accommodation of a number of old vessels has been altered where it has been found practicable to do so. This will no doubt extend to other ships as the times for survey and repair become due.

A number of ships have been found to be infested with vermin. Advice and assistance have been given in each case. The eradication of vermin especially bugs is particularly difficult as one of the chief sources of infestation is due to the crew carrying infested clothing from ship to ship and frequently from bug infested boarding houses ashore.

## VII.—Food Inspection.

(1) *Public Health (Imported Food) Regulations, 1925.*

*Public Health (Imported Food) Amendment Regulations, 1933.*

Resort to legal proceedings was not necessary during the year.

*Quantity of food imported and dealt with :—*

### *Fresh, frozen or canned meat, etc.*

Frozen beef	...	...	24,984	qrs.
„ mutton and lamb	...	...	699,692	carcases.
„ pork	...	...	20,451	„
„ pork sides	...	...	14,726	sides
„ pork legs	...	...	1,161	bags
„ sundries	...	...	14,214	packages.
Bacon and hams	...	...	1,040	tons
Canned meat	...	...	672	„
Canned fish	...	...	785	„

### *Fresh, dried and canned fruit, etc.*

Bananas	...	...	80,519	„
Green fruit	...	...	15,527	„
Dried fruit	...	...	5,719	„
Vegetables—raw	...	...	1,260	„
„ canned	...	...	1,863	„
Vegetables in brine	...	...	1,207	„
Canned fruit	...	...	8,206	„

### *Other foods :*

Butter, cheese and lard	...	...	25,764	„
Grain	...	...	946,901	„
Cereal products for human consumption	...	...	24,498	„
Feeding stuffs for animals	...	...	202,963	„

*Imported animals dead or slaughtered:—*

Animals landed dead	...	...	...	...	4
Slaughtered in lairs	...	...	...	...	nil

*Unsound food destroyed or otherwise dealt with so as not to be used for human food.*

<i>Fresh or frozen meat, etc.</i>					Tons.	cwts.	qrs.	lbs.
Beef	...	...	...	...	—	13	—	10
Mutton and lamb	...	...	...	...	4	19	2	18½
Pork	...	...	...	...	—	2	—	23
<i>Canned goods.</i>					Tins.			
Apples	...	...	...	...	7	—	1	10½
Apricots	...	...	...	...	425	—	6	20
Beef	...	...	...	...	64	—	2	19
Brawn	...	...	...	...	4	—	—	24
Blackcurrant pulp	...	...	...	...	1	—	—	11
Cherries	...	...	...	...	26	—	2	9
Corned beef	...	...	...	...	6	—	1	3
Cream	...	...	...	...	8	—	—	2
Fruit salad	...	...	...	...	15	—	1	1
Grape fruit	...	...	...	...	83	—	2	27
Ham	...	...	...	...	35	—	4	10
Ham Roll	...	...	...	...	16	—	2	6
Jellied veal	...	...	...	...	355	—	19	2
Lambs liver	...	...	...	...	5	—	1	22
Milk (condensed)	...	...	...	...	44	—	—	22
Milk (evaporated)	...	...	...	...	25	—	—	20
Peas	...	...	...	...	3	—	—	18
Pears	...	...	...	...	639	—	14	11
Peaches	...	...	...	...	385	—	6	1
Pilchards	...	...	...	...	4	—	—	22½
Pineapple	...	...	...	...	167	—	2	4
Pork and Beans	...	...	...	...	6	—	—	26
Salmon	...	...	...	...	24	—	—	6
Tomatoes	...	...	...	...	29	—	2	24
Tomato Puree	...	...	...	...	34	—	3	2
Tongues	...	...	...	...	55	—	2	4½
							1	13
<i>Fruit and vegetables.</i>					Cases.			
Apricot pulp	...	...	...	...	1	—	4	—
Cabbage	...	...	...	...	30	—	7	—
Fruit salad (dried)	...	...	...	...	3	—	—	2
Grape fruit	...	...	...	...	120	—	—	3
Lettuce	...	...	...	...	23	—	—	—
Melons	...	...	...	...	16	—	16	3
Oranges	...	...	...	...	6,499	324	11	2
Potatoes	...	...	...	...	140	—	—	—
Prunes	...	...	...	...	1	—	—	—
Raisins	...	...	...	...	399	4	9	2
								16
<i>Other goods.</i>								
Barley	...	...	...	...	76	14	2	16
Cheese	...	...	...	...	—	1	1	14
Coconut (desiccated)	...	...	...	...	—	6	—	—
Cocoa Beans	...	...	...	...	—	9	2	—
Maize	...	...	...	...	13	16	3	20
Oats	...	...	...	...	1	18	3	10
Wheat	...	...	...	...	75	8	3	10
TOTAL					521	5	2	20

*Public Health (Imported Milk) Regulations, 1926.*

No milk (other than condensed, evaporated or dried) was imported during the year.

*Public Health (Preservatives, etc., in Food) Regulations, 1925 to 1927.*

Periodical sampling of various foods has been carried out under the provisions of the above regulations. There have been four infringements. These were dealt with in the manner laid down by the regulations.

*Copper in Tomatoes.*

Attention has been given during the year to the question of the amount of copper to be tolerated in imported canned tomatoes and importers were informed of the standard to be expected.

There is some divergence of opinion between certain foreign exporters and expert opinion in this country as to the amount of copper which can be said to be unavoidable in tinned tomatoes. In addition, certain importers have informed the department that in their opinion other tinned vegetables, e.g., tinned celery and asparagus invariably contain copper in similar amounts.

Numbers of samples have been taken during the latter half of the year of these goods, but with no definite confirmation of this statement.

It is however clear that with proper methods of preparation the copper content can be kept down to a very low figure and the department is proceeding on these lines.

Some examples are given of the variety of circumstances found in the work of food inspection at the port. These instances are as follows :—

(1). S/s. "Northumberland." This vessel arrived at Avonmouth with a consignment of frozen mutton and lamb from New Zealand. In the No. 4 tweendeck a consignment of barrels containing pickled pelts was stowed. Owing to rough weather on the passage some of these barrels burst and the pickling solution leaked into the refrigerated hold containing frozen meat. As arsenic is often used in the pickling of pelts, all contaminated carcasses were detained, and samples of the pickling solution were sent to the Bristol University for examination. The analysis showed that the pickle was free from arsenic, and was of pure salt. The damaged carcasses were found to be contaminated in much the same manner as by brine stain. Affected parts of the carcasses amounting to 2,504 lbs. of lamb and mutton were condemned in the usual manner.



(2). S/s. "Ruahine." This vessel brought, among other consignments, 250 cases of canned jellied veal from New Zealand. The point of interest in this instance is that 343 6 lb. tins were found to be blown and burst. The whole consignment was detained and every tin was examined. It is difficult to state with exactness the cause of these tins bursting in such a manner, but it is reasonable to think that inferior canning coupled with stowage in a warm part of the ship were the contributory factors.

(3). S/s. "Steel Maker." This vessel brought a consignment of general cargo from Pacific Coast ports, via London and Liverpool. At London it was discovered that a fractured soil pipe had been leaking into No. 2 hold. Notification of this was sent from London to Bristol. A strict watch was continually kept on all the cargo that was discharged from this hold at Avonmouth. 1,722 bags of barley were condemned, also 656, 28lb. cases of raisins were destroyed.

I have to thank Port Inspector Howick, Avonmouth, for these details and for the supervision of the arrangements in connection with the work entailed.

The number of samples found to contain preservative in excess of the regulations in previous years is according to the following table :—

1933	1934	1935	1936	1937	1938
6	—	10	5	—	4

(2) *Public Health (Cleansing of Shellfish) Act 1932.*

*Public Health (Shellfish) Regulations 1934.*

There are no shellfish beds or layings within the jurisdiction of the Bristol Port Health Authority. The supply of shell fish marketed in Bristol is obtained mainly from the following sources :

Cockles from St. Clair, South Wales, and King's Lynn, Norfolk.

Escallops ,, Brixham, South Devon.

Mussels ,, Appledore, North Devon; and St. Clair, South Wales.

Oysters ,, Whitstable, Pyefleet, and Colemouth, via London, Portuguese and American via Liverpool.

Winkles ,, Appledore, North Devon.

Whelks ,, King's Lynn, Norfolk.

(3) *Samples of food examined by bacteriologist and analyst.*

Article.	Examined for	Result.
Asparagus tips, canned	Metals	Copper 4 parts per million.
Cherries, canned ...	do.	Tin 1.06 grains per lb.
Cider ... ..	do.	Copper 0.012 grains per lb.
Cider ... ..	do.	Lead—2 parts per million.
Cider ... ..	do.	Copper—5 parts per million.
Carrots, canned ...	do.	Lead—5 parts per million.
Celery, canned ...	do.	Copper—1.5 parts per million.
Corned beef, canned	do.	Tin 0.3 grains per lb.
Corned beef, canned	do.	Copper—1.0 parts per million.
Flour ... ..	Contamination	Tin—1.0 grains per lb.
Flour ... ..	do.	Copper—1.0 parts per million.
Grapes ... ..	Presence of	Metals nil.
Lettuce ... ..	Presence of en-	Metals nil.
Lactose ... ..	teric and dy-	No evidence of contamination by
Malted Milk powder	sentry bacilli	sea water.
Oranges, canned ...	Soundness	do. do.
Raspberry pulp ...	Soundness	Arsenic not present.
Raspberry pulp ...	Metals	Not present.
Syrup ... ..	Contamination	Genuine.
Sardine oil ... ..	do.	Genuine
Sardines ... ..	Soundness	Metals nil.
do. ... ..	Metals	No contamination indicated.
do. ... ..	do.	do.
do. ... ..	Soundness	Suitable for ingredient for cattle
do. ... ..	do.	food.
do. ... ..	do.	Genuine.
do. ... ..	do.	Lead—4 parts per million.
do. ... ..	do.	Lead—1.7 parts per million.
do. ... ..	do.	Lead—0.9 parts per million.
do. ... ..	do.	Lead—2.4 parts per million.
do. ... ..	do.	Lead—1.3 parts per million.
do. ... ..	do.	Lead—4.2 parts per million.
Salt codfish ... ..	Soundness	Lead—5 parts per million.
Spinach, canned ...	Metals	Unfit for food.
Tomatoes, canned	Metals	Lead—1 part per million.
do. ... ..	do.	Copper—2.5 parts per million.
do. ... ..	do.	Tin nil.
do. ... ..	do.	Tin—6.5 parts per million.
do. ... ..	do.	Copper—1.95 parts per million.
do. ... ..	do.	Tin—31.5 parts per million.
do. ... ..	do.	Copper—2.3 parts per million
do. ... ..	do.	'Blown' tin.
do. ... ..	do.	Tin—54 parts per million.
do. ... ..	do.	Copper—1.05 parts per million.
do. ... ..	do.	Tin—0.29 grains per lb.
do. ... ..	do.	Copper—4.8 parts per million.
do. ... ..	do.	Tin—0.31 parts per million.
do. ... ..	do.	Copper—1.4 parts per million.
do. ... ..	do.	Tin—32 parts per million.
do. ... ..	do.	Copper—2 parts per million of
do. ... ..	do.	dried total solids.
do. ... ..	do.	Tin—0.8 grains per lb.
do. ... ..	do.	Copper—45.7 parts per million
do. ... ..	do.	of dried total solids.
do. ... ..	do.	Tin—0.3 grains per lb.
do. ... ..	do.	Copper—117 parts per million
do. ... ..	do.	of dried total solids.
do. ... ..	do.	Tin—0.2 grains per lb.
do. ... ..	do.	Copper—60 parts per million of
do. ... ..	do.	dried total solids.

(3) *Samples of food examined by bacteriologist and analyst (contd.)*

Article.	Examined for	Result.
Tomatoes, canned	do.	Tin—0·13 grains per lb. Copper—31 parts per million of dried total solids.
do. ... ..	do.	Tin—0·26 grains per lb. Copper—19 parts per million of dried total solids.
do. ... ..	do.	Tin—0·24 grains per lb. Copper—50 parts per million of dried total solids.
do. ... ..	do.	Lead—0·2 parts per million. Copper—37·1 parts per million of dried total solids.
do. ... ..	do.	Copper—26·5 parts per million of dried total solids.
do. ... ..	do.	Copper—34·6 parts per million of dried total solids.
Tomato puree ...	do.	Tin—0·66 grains per lb. Copper—3·7 parts per million.
do. ... ..	do.	Tin—0·84 grains per lb. Copper—107 parts per million of dried total solids.
do. ... ..	do.	Copper—28 parts per million of dried total solids.
do. ... ..	do.	Copper—97·5 parts per million of dried total solids.

*Sampling for preservatives.*

The following samples were submitted to the public analyst during the year and examined by him for the presence of preservatives :

Apricots, dried ... ..	2	Milk, skimmed, powder	2
Apples, evaporated ... ..	1	Muscateles ... ..	2
Asparagus tips, canned	1	Oranges, canned ... ..	2
Beef powder ... ..	2	Pulp, black currant ... ..	3
Beef stock ... ..	1	Pulp, apricot ... ..	2
Corned beef ... ..	2	Pulp, raspberry... ..	4
Cherries, canned ... ..	1	Pulp, strawberry ... ..	5
Cherries, in brine ... ..	1	Prawns ... ..	1
Carrots, canned ... ..	2	Prunes, dried ... ..	1
Candy ... ..	1	Raisins ... ..	2
Currants ... ..	1	Raspberries in SO <sub>2</sub> ... ..	2
Cider ... ..	2	Strawberries in SO <sub>2</sub> ... ..	2
Celery, canned ... ..	1	Sultanas ... ..	12
Corn flakes ... ..	1	Spaghetti, canned ... ..	1
Figs ... ..	2	Spinach, canned ... ..	2
Herring roe, canned ... ..	1	Shrimps, canned ... ..	1
Lunch tongue, canned	1	Tomato puree ... ..	5
Meat gelatine, canned... ..	1	Tomato, canned ... ..	18
Milk, chocolate malted... ..		Walnuts, shelled ... ..	1
powder ... ..	1		—
Milk, malted, powder ... ..	2	Total ... ..	99
Milk, machine skimmed, condensed ... ..	3		—
Milk, evaporated, full cream unsweetened ... ..	1		

**MISCELLANY.***Parrots (Prohibition of Import) Regulations, 1930.*

No vessels arrived in 1938 with parrots or budgerigars on board.

*Canal Boat Inspection.*

No canal boats were in use in the Bristol district during 1938.

*Medical inspection of aliens.*

During the year 166 aliens landed at Bristol, mostly as first class passengers, in transit or visitors, from the West Indies, and medically presented no difficulties. Those referred for examination are examined on board while the ship is in the locks. Altogether, 124 were inspected by the medical inspector including 15 who were subjected to detailed examination.



# Medical Inspection of Aliens.

*Annual return by the medical inspector of aliens for year ended 31st December, 1938.*

	Total	Number inspected by the medical inspector	Number subjected to detailed examination by the medical inspector	Certificates Issued				Transmigrants	
				Lunatic idiot or M.D.	Undesirable for medical reasons	Physically incapacitated	Suffering from acute infectious disease	Landing necessary for adequate medical examination	Verminous
1.									
(a) Total number of Aliens (excluding Alien Seamen) landing at the Port	166	109	15	..	..	..	..	..	..
(b) Aliens refused permission to land by Immigration Officer	11	..	..	..	..	..	..	..	..
(c) Transmigrants	..	..	..	..	..	..	..	..	..
2. Total Aliens arriving at the Port	177	109	15	..	..	..	..	..	..
3.									
(a) Total number of vessels carrying alien passengers	..	..	95						
(b) Number of such vessels dealt with by the Medical Inspector	..	..	59						

TABLE A.

## Analysis of Aliens landing (see 1 (a)).

Residents returning .. ..	..	..	Total
In Transit .. ..	..	..	6
Visitors .. ..	..	..	47
Business .. ..	..	..	85
Diplomatic .. ..	..	..	7
Seamen .. ..	..	..	1
Contract Seamen .. ..	..	..	7
Ministry of Labour Permit (M.L.) :—	..	..	3
(a) Males .. ..	..	..	..
(b) Females .. ..	..	..	3
(c) Children .. ..	..	..	..
Aliens coming to settle not holding M.L. permits :—	..	..	..
(a) Males .. ..	..	..	2
(b) Females .. ..	..	..	5
(c) Children .. ..	..	..	..
Total .. ..	..	..	166

TABLE B.

## Classification of Aliens referred to the Medical Inspector by the Immigration Officer for detailed examination —

(i) holding Ministry of Labour permits .. ..	..	..	..	..	..	..	..	..	..	..
(ii) intending to remain in the country over 3 months .. ..	..	..	..	..	..	..	..	..	..	..
(iii) intending to make their home in this country .. ..	..	..	..	..	..	..	..	..	..	..
(iv) students coming for educational purposes .. ..	..	..	..	..	..	..	..	..	..	..
(v) in regard to whom there is any mention of health as a reason for their visit .. ..	..	..	..	..	..	..	..	..	..	..
(vi) who appear to the I.O. (a) not to be in robust health; (b) to be mentally or physically abnormal or sub-normal; (c) to be dirty in their person or (d) are selected for special reasons .. ..	..	..	..	..	..	..	..	..	..	..
(vii) seamen travelling as passengers .. ..	..	..	..	..	..	..	..	..	..	..
Total .. ..	..	..	..	..	..	..	..	..	..	..

Total

1938

**REPORT**  
OF THE  
**SCHOOL MEDICAL OFFICER**

R H. Parry, M.D., B.S., M.R.C.P. (Lond.), D.P.H.

---

Education Department, Guildhall, Bristol.

# BRISTOL EDUCATION COMMITTEE.

---

*Chairman* - Councillor F. C. WILLIAMS.  
*Vice-Chairman* - Councillor A. C. K. TOMS, M.A.

## **Medical Services Sub-Committee.**

*Chairman* - M. GILES, Esq., J.P.  
Councillor Mrs. F. M. BROWN.  
Rev. W. DILLON, B.A.  
Councillor Mrs. D. P. DOBSON.  
Councillor Mrs. E. J. SALT.  
Councillor A. L. H. SMITH, J.P.  
W. R. STRAKER, Esq., M.A., J.P.  
Alderman T. H. J. UNDERDOWN, M.A., J.P.  
Councillor W. A. WILKINS.

## **Child Guidance Management Sub-Committee.**

*Chairman* - M. GILES, Esq., J.P.  
Councillor Mrs. F. M. BROWN.  
Rev. W. DILLON, B.A.  
Councillor Mrs. D. P. DOBSON.  
Councillor Mrs. E. J. SALT.  
Councillor A. L. H. SMITH, J.P.  
W. R. STRAKER, Esq., M.A., J.P.  
Alderman T. H. J. UNDERDOWN, M.A., J.P.  
Councillor W. A. WILKINS.

## **Co-opted Members.**

The Hon. LADY J. INSKIP.  
Miss M. COWLIN.  
Mrs. A. FIELD.  
Miss H. D. VIRGO.  
Mrs. E. H. C. WETHERED.

---

## *Chief Education Officer—*

M. O. MCAULIFFE, Barrister-at-Law.

## SCHOOL MEDICAL STAFF.

---

### School Medical Officer and Medical Officer of Health.

R. H. PARRY, M.D., B.S., (Lond.), M.R.C.P., D.P.H.

### Chief Assistant School Medical Officer.

A. A. DALBY, M.C., M.R.C.S., L.R.C.P.

### Assistant School Medical Officers (Whole-time).

A. F. ALFORD, M.B., Ch.B. (resig. 23/4/38).

\*MONICA A. O'DONOHUE, M.B., Ch.B., Ba.O.

CRISSIE SHORT, M.B., Ch.B., D.P.H. (resig. 14/5/38).

\*F. W. BUNTING, M.B., Ch.B., D.P.H. (trans. to Health Committee 1/1/38).

R. J. IRVING BELL, M.R.C.S., L.R.C.P., D.P.H.

D. T. RICHARDS, M.R.C.S., L.R.C.P., D.P.H.

J. G. HAILWOOD, M.D., Ch.B., D.P.H. (apptd. 10/2/38).

\*MARY GIBSON, M.B., Ch.B., D.P.H. (apptd. 20/6/38).

A. M. FRASER, L.R.C.P., L.R.C.S., D.P.H. (apptd. 27/6/38).

\*J. L. S. JAMES, M.R.C.S., L.R.C.P. (apptd. Anaesthetist 1/6/38).

\*J. HUTTON, M.B., Ch.B., D.P.H. (apptd. 17/10/38).

\*HILDA L. BYETT, M.B., B.S., D.P.H. (apptd. 1/11/38).

\* Part-time Health Committee.

### Assistant School Medical Officer (Part-time).

S. B. GREEN, M.B., D.P.H.

### Specialist Medical Officers.

*Cardio-rheumatic Section* - C. BRUCE PERRY, M.D., Ch.B., M.R.C.P.

*Ear, Nose and Throat Section* G. R. SCARFF, M.B., F.R.C.S. (E.).

*Ophthalmic Section* - R. R. GARDEN, M.A., M.B., D.O.M.S., D.P.H.

*Orthopaedic Section* - HUBERT CHITTY, M.S., F.R.C.S.

K. H. PRIDIE, M.B., B.S., F.R.C.S.

*X-ray Section* - F. G. BERGIN, M.R.C.S., L.R.C.P.

### Child Guidance Clinic.

*Director* - R. F. BARBOUR, M.A., M.R.C.P., D.P.M.

*Psychologist* - MARJORIE I. DUNSDON, M.A., (apptd. 14/2/38).

*Psychiatric Social worker* - HILDA E. HOWARTH, M.A., A.I.H.A.

*Temporary Psychiatric Social Worker* - JANET C. GLOVER (apptd. 1/12/38).

*Speech Therapist* - DORIS WILSON, M.S.S.T.

### Dental Surgeons (Whole-time).

W. H. B. STRIDE, L.D.S. (*Supervisory Dental Surgeon*).

A. LETHABY MORGAN, L.D.S. MARION BENTZ, L.D.S.

MURIEL S. COSH, B.D.S. A. H. V. WILLIAMS, L.D.S.

E. R. DOWLAND, L.D.S. H. W. WILLIAMS, L.D.S.

(apptd. 10/1/38).

(apptd. 10/1/38).

G. W. VOWLES, L.D.S. (apptd. 31/1/38).

H. HAZELL, L.D.S. } Jointly with the Health Committee.  
J. D. REES, L.D.S. }



## SCHOOL MEDICAL STAFF

(continued).

### School Nurses.

L. ELKINS, *Principal Sister.*

M G. BASSETT	V. P. BOWLER	M. BRADLEY
P. M. COATES	E. M. CORDING	H. L. CROCKER
M. S. DALL	A. G. DAVIES	B. M. DAVIS
M. J. DEVLIN	M. R. EPPLESTONE	E. S. FISHER
	(apptd. 23/9/38)	(resig. 24/5/38)
B. K. FOUNTAIN	F. E. FRY (resig. 31/3/38)	W. JOHNSON
L. L. JOYCE	D. KELLOW	D. LEIGHTON
(apptd. 25/4/38)	(apptd. 20/4/38)	
Mrs. J. MILLER	M. MORGAN	P. PICTON
(Temporary)		
E. M. R. REYNOLDS	A. ROBINS	C. J. RUDD (Temporary)
M. D. WESTHEAD (apptd. 7/11/38)		H. V. WILSON

### Masseuses and Remedial Gymnasts.

M. ROSSI	B. D. ROBERTSON	C. V. ROBERTSON
----------	-----------------	-----------------

### Clinic Assistants.

L. R. HOLLOWAY	R. WEBB
----------------	---------

### Dental Attendants.

E. M. BATTEN	G. M. NEEDS	P. K. DAVIES	G. A. MASSEY
M. STEPHENS	M. O. COATES	L. G. BOULTON	Mrs. M. BLAKE
J. MOSS	A. M. DURBIN		

### Clerical Staff.

A. C. J. GREGORY, *Chief Clerk.*

J. H. MIDDLETON and H. F. KERSLAKE, *Senior Clerks.*

W. H. HAUSER	IVY M. PORTER	A. W. R. MULLANY
ETHEL F. WEAVER	EMILY F. JONES	LETTY R. POW
S. J. TUCKER	J. REX	G. G. LAING
L. JOAN HILES	PEGGY D. BLANDFORD	J. WILSON
(resig. 30/9/38)	A. MATTFIELD	

# CITY AND COUNTY OF BRISTOL.

---

Population (estimated Mid. 1937)...	...	...	415,100
-------------------------------------	-----	-----	---------

## Elementary Schools :—

Number of Schools	...	...	104
Number of Departments	...	...	194
Average Number on Registers	...	...	50,502
Average attendance	...	...	44,737

---

## SUMMARY OF WORK DONE DURING 1938.

### School Medical Officers :—

No. of Visits to Elementary Schools	-	-	792
No. of Children of Code Groups examined in Schools			16,599
No. of Re-examinations in Schools	-	-	5,939
No. of Visits to Secondary Schools	-	-	73
No. of Children examined	-	-	1,716

### Dental Surgeons :—

No. of Children examined	-	-	43,714
No. of Children treated	-	-	23,148

### School Nurses :—

#### *Cleanliness Survey.*

No. of Visits to Schools	-	-	1,115
No. of Examinations of Children	-	-	75,374
No. of Homes Visited	-	-	12,768

#### *Preparation for Medical Inspection.*

No. of Visits to Schools	-	-	794
No. of Children prepared	-	-	20,538

# SCHOOL CLINICS.

Total Attendances - - - 274,629

	<i>No. of Attendances.</i>	<i>Work.</i>
Central Health Clinic.	69,709	Inspection clinic work, treatment of minor ailments, ear, nose and throat clinic, zinc ionisation, dental treatment, refraction work, X-ray treatment and treatment of scabies cases, orthopaedic and electrical treatment and massage.
Bedminster Health Centre.	63,963	Inspection clinic work, treatment of minor ailments, ear, nose and throat clinic, dental treatment and refraction work.
Speedwell Health Centre.	58,045	Inspection clinic work, treatment of minor ailments, ear, nose and throat clinic, dental treatment and refraction work.
Portway Clinic -	20,666	Inspection clinic work, treatment of minor ailments, ear, nose and throat clinic, dental treatment and refraction work.
North Bristol Clinic	34,547	Inspection clinic work, treatment of minor ailments, dental treatment and refraction work.
Verrier Road - (opened 1/11/38)	789	Treatment of minor ailments—mornings only.
Redcross St. Spec. School Clinic.	14,229	Inspection clinic work, treatment of minor ailments, massage, electrical treatment and remedial exercises.
Tuberculosis Dispensaries.	2,748	Tuberculosis cases.
Cardio-rheumatic Clinic.	1,117	Cases of heart diseases and acute rheumatic infection.
Artificial Light Clinic.	3,089	Cases of anaemia and debility.
Child Guidance Clinic -	2,643	
Speech Clinic -	1,957	
Orthoptic Clinic -	1,127	

### I.—STAFF.

During the year the following changes occurred in the medical staff :—

Dr. F. W. Bunting was transferred to the Health Committee on 1st January, 1938. Dr. A. F. Alford resigned on 23rd April, 1938, having been appointed Assistant Medical Officer to the Board of Education. Dr. C. Short resigned on 14th May, 1938.

Dr. J. G. Hailwood (10/2/38), Dr. Mary Gibson (20/6/38) and Dr. A. M. Fraser (27/6/38) were appointed to fill the vacancies.

Dr. J. L. S. James (1/6/38) was appointed full-time anaesthetist.

Three additional dentists were appointed as follows :—  
Mr. E. R. Dowland (10/1/38), Mr. H. W. Williams (10/1/38) and Mr. G. W. Vowles (31/1/38).

Miss Ruth Griffiths having asked to be released from her duties as part-time psychologist, resigned in February 1938 and Miss M. I. Dunsdon was appointed full-time psychologist, devoting part-time to the School Medical Service and Elementary schools in addition to her duties at the Child Guidance Clinic.

Miss J. C. Glover was appointed temporary social worker at the Child Guidance Clinic on 1/12/38.

Miss F. E. Fry resigned from the Nursing Staff on 31/3/38, and Miss E. S. Fisher on 24/5/38. Miss D. Kellow (20/4/38) and Miss L. Joyce (25/4/38) were appointed to fill the vacancies.

It was decided to increase the nursing staff by appointing six additional nurses. Miss M. Epplestone (23/9/38) and Miss M. D. Westhead (7/11/38) joined the permanent staff on the dates stated, and it is hoped to fill the four remaining posts in the near future. Meanwhile, the temporary services of Mrs. Miller and Miss C. Rudd have been retained.

### II.—CO-ORDINATION OF HEALTH SERVICES.

The scheme for co-ordinating the health services has worked smoothly and efficiently during the year.

The Chief Sanitary Inspector renders a periodic report on the sanitation of schools in the Bristol area for the information of the School Medical Officer.

Arrangements exist between the Education and Health Committees whereby children of pre-school age may be referred by the



Maternity and Child Welfare Department to school clinics for the treatment of certain defects and diseases. Details of this scheme are given later in the Report in Section VII.

During 1938 the School Medical Officers, who are also Assistant Medical Officers of Health, gave a total of 681 sessions to duties under the Health Committee, as follows :—

Sessions devoted to Health Committee	...	...	232
Sessions devoted to Port work	...	...	52
Sessions devoted to Maternity and Child Welfare work	...	...	397
			681

The Assistant Medical Officers on the Health Committee's staff gave 365 sessions to school medical work.

### III.—HYGIENE OF SCHOOL PREMISES.

Any defects discovered in schools by the School Medical Officer or his staff are reported to, and remedied by, the Sites and Buildings Department.

During the year the following new school departments were opened :—

Doncaster Road Junior Mixed and Infants.

Ilminster Avenue Nursery (Transferred from Health Committee, September 1938).

St. Gerard's R.C. Junior Mixed and Infants.

In October, the Barton Hill Infants' School was recognised by the Board of Education as a Nursery School for children of ages 2—7 years.

### IV.—MEDICAL INSPECTION.

#### (a) Arrangements for Inspection.

Except in the case of five schools which have no suitable accommodation, the routine medical inspection of children is held on the school premises. The Head Teachers co-operate in the work very willingly, and their help is much appreciated.

The schedule of medical inspection approved by the Board is followed.

**(b) Groups Inspected.**

The three code groups examined are :—

- (a) *Entrants*—children who first entered school within the previous twelve months.
- (b) *Second Age Group*—children between the ages of eight and nine years.
- (c) *Third Age Group*—children who have reached the age of twelve years.

Special cases are brought to the Doctor's notice during his visit to the schools, and re-examinations are made of children noted as having defects or ailments at a previous routine inspection.

In addition to the above, children aged fourteen years who are in attendance at Central Schools are now given a routine medical examination.

## **V.—FINDINGS OF MEDICAL INSPECTION.**

A complete medical inspection was made of 16,421 children in the usual three age groups during 1938, and 37,311 were examined because of some special defect. In addition, 178 children (aged 14) were examined who were in attendance at the Central Schools.

**(a) Malnutrition.**

Of the 16,599 children examined during the year, 1,613 (9·7%) were placed in group C (slightly subnormal), and 26 (0·16%) in group D (bad).

**(b) Uncleanliness.**

Minor cases of dirty heads are still numerous. Special combs are supplied for the purpose of removing nits.

**(c) Minor ailments and diseases of the skin.**

Thirty-eight cases coming in this category were discovered on medical inspection, 30 of which required treatment.

**(d) Visual defects and external eye disease.**

Defective vision was reported in 738 cases, and there were 26 children discovered who suffered from squint. In addition, there were 25 cases of external eye disease but this does not include special cases referred to the School Medical Officer.

**(e) Nose and throat defects.**

and throat defects.		<i>Requiring treatment.</i>	<i>Observation.</i>
Chronic tonsillitis only ...	...	218	180
Adenoids only ...	...	64	17
Chronic tonsillitis and adenoids		227	59
Other conditions ...	...	54	25

**(f) Ear disease and defective hearing.**

disease and defective hearing.				<i>Requiring treatment.</i>	<i>Observation.</i>
Defective hearing	...	...	30	11	
Otitis media and other ear disease	...	...	35	11	

**(g) Dental defects.**

In order not to interfere with the scheme of dental inspection, the Medical Officers only report dental defects which they consider require urgent treatment in view of the condition of the child's health. 1,912 such cases were reported, including 282 cases referred to the School Dental Officers.

**(h) Orthopaedic and postural defects.**

Defects under this heading requiring treatment were 127 in number, while there were 56 which had to be kept under observation.

**(i) Heart disease and rheumatism.**

The number of children suffering from organic heart disease totalled 85, and 64 had some functional disorder. Thirty-eight cases of rheumatism and 7 of chorea were reported.

**(j) Tuberculosis.**

The following table shows the cases coming under this heading :

			<i>Requiring treatment.</i>	<i>Observation.</i>
Pulmonary definite	...	...	4	1
Pulmonary suspicious	...	...	23	16
Glands, etc.	...	...	6	10
Other forms	...	...	3	—

**(k) Other defects or diseases.**

155 cases were found to require treatment and 220 needed observation only.

**VI.—FOLLOWING UP.**

The procedure detailed in previous reports has been carried out in regard to following up.

**SCHOOL NURSES.**

The work of the School Nurse is one of the most important parts of the medical service. Her time is divided between the clinics, the schools, and the homes of the children. The following summary gives some idea of the scope and nature of her duties.

**(1) Work in School Clinics.**

In addition to the general inspection work, each clinic has several special departments in which a variety of specialised forms of treatment has to be carried out under the direction of the doctors in charge of the different branches. The special forms of treatment are used chiefly for chronic ailments of the skin, ear and eye, and the cases dealt with can rarely be treated satisfactorily at home.

The largely increased attendances consequent on the opening of the new health centres as well as the nurses' survey have necessitated additional nurses in the centres to cope with the treatment cases.

**(2) Work in Schools.**

Some days before the Doctor's visit, children due for examination are weighed, measured and tested as to visual acuity. In this way a definite saving of time is effected, and the Doctor is enabled



to devote more time to the individual child. 811 visits were paid to schools in connection with these duties last year.

In the schools attached to the Portway, North Bristol and Bedminster Clinics the nurses' survey was carried out during the whole year. In this survey the nurses in addition to doing the ordinary cleanliness inspection, weigh and measure the children, note the condition of mouth, eyes and ears, watch for any obvious deformity, test the vision and discuss the educational progress with the child's teacher when there is any abnormality. Cases not appearing to be making real progress are referred to the clinic for special medical examination. The nurses are also responsible for following-up the cases in the homes.

Owing to insufficiency of the nursing staff it has not been possible to extend the nurses' survey to the remaining areas.

The following particulars show the results in the three areas.

	Portway Area.	North Bristol Area.	Bedminster Area.	Total
No. of sessions ...	105	143	292	540
Children surveyed ...	4,522	6,493	13,471	24,476
Average no. per session	43·0	45·4	46·0	45·3
Referred to clinic ...	561	773	1,033	2,367
Of the cases referred to clinic :—				
Already under treat- ment ...	9	187	296	492
Requiring treatment or to be kept under observation ...	277	428	385	1,090
Discharged ...	49	42	4	95
Minor ailments, pri- vate doctor or in- stitution ...	40	70	139	249
Failed to attend clinic	186	46	209	441
	561	773	1,033	2,367

The defects requiring treatment, or to be kept under observation were :—

Skin	...	...	...	92
Eye disease	...	...	...	56
Defective vision	...	...	...	379
Ear disease	...	...	...	47
Nose and Throat	...	...	...	122
Defective speech	...	...	...	6
Anaemia	...	...	...	11
Lungs	...	...	...	20
Nervous system	...	...	...	6
Deformities	...	...	...	7
Rheumatism	...	...	...	7
Malnutrition	...	...	...	192
Other defect or disease	...	...	...	195
				<hr/> 1,140 <hr/>

With regard to verminous conditions, skin diseases and general neglect, in the course of 1,115 visits to schools, 75,374 examinations of children were made including 2,994 re-examinations of children found to require attention on a previous occasion.

In this work the nurse and head teacher act in close co-operation, and we are greatly indebted to the teachers for their valuable assistance in this matter.

### (3) Home-visiting.

In many cases, the parents do not accompany their children to clinic or medical inspection, and large numbers of visits have to be made at the homes for the purpose of interviewing them. Every effort is made in this way to encourage and assist parents in obtaining treatment for ailments discovered in their children. During the year the number of visits for this purpose was 9,081. Other visits in regard to uncleanliness, etc., totalled 3,687.

## VII.—TREATMENT.

The three clinics, viz., Central, Bedminster and Speedwell, built by the Health Committee under the suggestions outlined in the Board of Education's Circular 1444, have resulted in closer co-ordination of the School Medical and Maternity and Child Welfare Services during the year.

At the Central Health Clinic, Tower Hill, provision is made for the Tuberculosis Officers, Orthopaedic Surgeon, Ear, Nose and Throat Surgeon and Eye Specialist, X-ray work for the whole city, X-ray treatment for ringworm, artificial sunlight and bathing for skin diseases in addition to the usual inspection and minor ailment treatment clinic. Orthopaedic, massage and electrical treatment has also been carried out at the Central Health Clinic during the year.

Special provision has been made for the development of the dental treatment scheme. At the Central Health Clinic four dental surgeries are arranged and the Bedminster and Speedwell Health Centres each has two dental surgeries.

In addition to the three clinics mentioned above, the Portway Joint Clinic and the North Bristol Clinic have continued as before. It is hoped to replace the latter by providing a new building at Monks Park Road in due course and provision of clinics in the Brislington and Ashley Road districts is under consideration.

All the clinics have been equipped for refraction work and cases are examined and glasses prescribed by the School Medical Officers. Special cases are referred to the Specialist Ophthalmic Surgeon.

The Committee's Aural Surgeon has charge of the Ear, Nose and Throat cases and attends the five clinics. Zinc ionisation for the treatment of chronic middle ear disease is carried out under his supervision at the Central Health Clinic.

The Orthopaedic Clinic at Redcross Street Special School deals with cases from the whole of Bristol. When the arrangements for building the Open-air School at Novers are complete it is proposed to divide the orthopaedic work between that school and the Central Health Clinic. A number of elementary school cases already attend for orthopaedic treatment at the latter.

Cases of acute rheumatic infection in any form and also of non-rheumatic heart disease attend the clinic at the Bristol General Hospital.

The Child Guidance Clinic operates at 1, Argyle Road, St. Paul's.

A Speech Clinic also is held at 1, Argyle Road.

An orthoptic clinic for the treatment of squint was opened at the Bristol Eye Hospital in April 1937, the Hospital equipping the clinic and providing the orthoptist.

Tubercular children now attend the Central Health Clinic.

The total number of attendances at the clinics during the year was 274,629.

**(a) Malnutrition.**

313 cases of malnutrition were treated at the clinics during the year. The treatment consists chiefly of provision of accessory foods, such as cod-liver oil and malt, etc., though many of these cases are transferred to open air schools.

**(b) Uncleanliness.**

Severe cases requiring treatment at the clinic are comparatively rare, and it usually suffices to send instructions to the parent as to method of cleansing.

**(c) Skin Clinics.**

(1) *Scalp Ringworm.* 31 cases of scalp ringworm were dealt with during the year. Four of these were brought forward from 1937, and all were treated at the Committee's clinics.

*X-ray Treatment.*

Dr. F. Gower Bergin, who is in charge of this department, reports as follows :—

“ The new quarters in the Clinic devoted to X-ray work are very convenient and well equipped. The shock-proof apparatus is a great improvement on the old type and makes things much easier to handle.

There have only been 17 cases of Ringworm in the Bristol schools this year, though quite a few cases have been treated from other Education Authorities.

It seems a pity that this cannot be extended as the facilities for treatment are so excellent.”



During the whole year, only 17 school cases were treated, 6 of which were on the books at the end of the present year.

Seven cases from other Authorities were also treated.

(2) *Body Ringworm*. During 1938 there were 175 cases of this disease under observation. All of these were treated at the school clinics.

(3) *Impetigo*. The school clinics treated 2,803 cases of impetigo during the year, a rapid cure being effected in all cases.

(4) *Scabies*. The bathing of children suffering from itch was carried out during the year at the Central Health Clinic on the lines described in previous reports. 250 school cases were treated, 665 baths being given.

#### *Minor Ailments.*

A very large number of miscellaneous cases was treated at the School Clinics. These include various surgical dressings of a minor character, and also various ailments that do not come under any of the above headings.

#### **(d) Eye Clinics.**

Mr. R. R. Garden, M.B., Ch.B., D.O.M.S., the Committee's Ophthalmic Surgeon, reports as follows :—

“ The number of refraction cases completed during 1938 again shows an increase. The total, 4,053, is made up of 3,814 from elementary, 216 from secondary, and 23 from nursery schools, and includes a number of re-examination cases for many of whom no change of glasses was ordered. Spectacles were not prescribed for 628 of the new cases, but several have been kept under observation.

During the year, a total of 2,234 pairs of spectacles were ordered through the Committee's scheme, while in 46 cases the parents made their own arrangements for examination and the provision of glasses. In most of the cases examined by myself or by the Assistant Medical Officers who have ophthalmic experience, the fitting of spectacles as well as the sight-testing is carried out at the Clinic nearest to the homes of the children.

Special attention is paid to myopic children, all of whom are examined at least once a year. Advice is given about the care of the sight, and the dangers of eyestrain are reduced as far as possible.

A total of 233 new squint cases and 738 observation or treatment cases, seen originally on previous occasions, attended during the year. Of the new ones, 116 were referred by the Maternity and Child Welfare Department, and 23 from Nursery Schools. From this it will be seen that squint is being detected and treated in most cases amongst those under school age, that is to say at the early stages when the prospect of obtaining successful results is most favourable.

The treatment of external eye diseases accounted for 10,104 attendances during the year.

#### *Orthoptic Treatment.*

Orthoptic treatment (apart from fusion-training) has been carried out extensively in the Committee's Clinics for years, and many successful results have been obtained by treating squint as soon as possible after its onset and preventing the deterioration of sight which so often results when this ailment is neglected or inadequately managed. As mentioned in last year's report, the work is now augmented by the Orthoptic Clinic opened in April 1937 at the Bristol Eye Hospital, and the Education Committee cases have again required four half-day sessions weekly. The results have been very satisfactory, and some details of the work done during the year are set out below :

Total number of cases examined for the first time	35
Number receiving treatment twice weekly	... 14
Number discharged as cured	... ... 14
Total number of attendances for treatment	... 1,088

Two children ceased to attend on account of illness, but otherwise attendances have been regular. Five of the cases now being treated will require an operation in addition to orthoptic training. The cured cases have acquired stereoscopic vision, have equal or almost equal vision in each eye and show no squint with or without glasses."

#### *Provision of Spectacles.*

The glasses are supplied at contract prices by opticians appointed by the Committee and when parents cannot pay the

amount due at once, arrangements are made for instalments which are collected by the Attendance Officers.

Spectacles obtained through School Medical Officer	910
Purchased privately by parents ... ..	1,212
Supplied by Public Assistance Committee ...	10
	<hr/>
	2,132,
	<hr/>

In addition to the above, 387 minor repairs were undertaken.

In necessitous cases, the cost is partly or wholly remitted at the discretion of the Committee, after inquiry into the circumstances.

**(e) Defects of Nose and Throat.**

The number of children found suffering from the above ailments was 3,858, of whom 1,166 received treatment. Operative treatment of enlarged tonsils and adenoids is performed at the various City Hospitals, 644 cases being so treated.

**(f) Aural Clinics.**

Regular visits are paid to five clinics by the Aural Surgeon, who makes a complete investigation in each case.

Practically all cases of chronic ear disease are now treated at the Committee's clinics. Zinc ionisation of cases with middle ear suppuration is carried out at the Central Health Clinic.

Mr. Gordon R. Scarff, F.R.C.S. (E.), the Aural Surgeon, reports as follows :—

“ During the past year, the number of children attending the Clinic was 595, of whom 293 were suffering from middle ear suppuration.

The treatment of middle ear suppuration is being carried out on the same lines as before—that is, dry treatment with insufflations of iodised boracic powder. 49 of the more chronic cases have been treated weekly by zinc ionisation ; in 23 cases the discharge has cleared up.

When there is any focus of infection in the nose or throat, these cases are referred to the various hospitals for treatment.

The chronic cases continue to show a progressive diminution. Only 69 children were attending for treatment at the end of the year of whom a considerable proportion were cases of recent suppuration.

170 cases for diagnosis as to enlarged tonsils and adenoids were referred by the Maternity and Child Welfare Department."

**(g) Child Guidance Clinic.**

Dr. R. F. Barbour, D.P.M., the Medical Director, reports :—

" Although the Child Guidance Clinic has only been open for two and a half years the work has increased so rapidly that each department is now working twice as many sessions per week as when the clinic was first started.

CLINICAL SESSIONS WEEKLY.

		June, 1936.	December, 1938.
Psychiatry	... ..	5	10
Psychology	... ..	2	6
Social Work	... ..	11	22

(each session is for a period of 3 hours).

This has been made possible partly by an increase in the paid staff, and partly by the generous help of voluntary workers whose services have been of the greatest value. Throughout 1938, Dr. F. H. Bodman, Dr. D. E. Heron and Dr. T. M. Ling have acted as honorary clinical assistants. In February, Miss M. I. Dunsdon, M.A. was appointed psychologist to the Education Committee and took over the psychological work of the clinic. Previously this department had been under Miss R. Griffiths, Ph.D., and it was thanks to her excellent work that this department made such a good beginning. In the social service department an attempt was made to keep up with the expansion of other divisions of the work by using the services of voluntary workers for home visiting, but owing to the additional work in treatment and administration an increase of staff was essential. In December a temporary psychiatric social worker, Miss J. Glover, was appointed.

During the year 1938, 416 children (269 boys and 147 girls) were seen, and of these 254 were new cases. As reported last year the clinic receives cases from a large number of different sources.



The reasons for referral are many and have included left-handedness and worrying, stealing cars, headaches, laziness and inability to keep jobs, refusal to talk, attacks of crying and fear of death. Co-operation between the clinic and the various referring agencies continues to be good. One fifth of the cases seen have come from the Juvenile Court, and if the suggestions of the proposed Criminal Justice Bill of 1938 are carried out this side of the work is likely to increase still further.

One of the problems in Child Guidance is the amount of time required per child and any method which will shorten diagnostic procedures without introducing serious errors is of value. Miss Dunsdon has for the last nine months been using the "L" Form of the Terman-Merrill Test for estimating intelligence. A shortened form of this test has been suggested but the accompanying tables show that, though the average difference in the results of the two scales appears to be small, the actual range of difference is sufficiently large to render the reliability of the present short form open to serious doubt, being as much as nineteen points in cases already analysed. Further research is proceeding to investigate the possibility of larger differences occurring in any one age group or within any particular range of intelligence.

TABLE I.

IQ Range Full Scale	Below 65	65 to 74	75 to 84	85 to 94	95 to 104	105 to 114	115 to 124	125 to 134	135+
Range of difference in points (short scale)	7	14	9	11	12	19	10	13	14

TABLE II.

Chrono- logical Age	3+	4+	5+	6+	7+	8+	9+	10+	11+	12+	13+	14+	15+	16+
Range of IQ differences in points	7	12	16	11	12	9	9	9	8	17	14	7	10	7

On the psychiatric side of the work a set of questions dealing with the first five years of the child's life has been devised which it is hoped may eventually provide a diagnostic frame and replace, to a certain extent, the longer form of history taking.

A new case, after examination, may be placed in one of three categories, consultation, supervision or treatment.

#### NEW CASES 1938.

Consultation	...	119
Supervision	... ..	51
Treatment	... ..	84

When a problem appears such that the so-called "common-sense" or direct approach seems adequate, or the only possible one, the case is placed under supervision. In this group the child and parent are seen and advised on a few occasions, probably reports are made to the school or other agencies, and no specialised form of psychotherapeutic treatment is employed. When, however, the causes of the problem are felt to be deeper and when the child's behaviour is symbolic of graver emotional strain, then the child is taken on for "treatment" and the approach is usually an indirect one by means of play therapy or some associative technique. Frequently in these cases an important contributing factor is a parental attitude and an attempt has to be made to modify it. When it is possible for a parent to appreciate the dynamics of his or her own problems, and also how they affect the child, then there usually follows a major improvement in the relationship between the parent and child, the corollary of which is a lessening of the child's difficulties.

It has not been found necessary to advise that any child should be excluded from school although seven children during the year missed a period of school through being sent away for convalescent treatment, and in five cases children who had already, for medical reasons, ceased attending school were excluded for a further period. In three cases, other than those referred from the Juvenile Court, the home environment was such that it seemed very unlikely that the child would adjust while remaining at home, and accordingly foster-home placement was recommended. In two cases the relatives bore the whole charge incurred, and in the third use was made of Section 80 of the 1921 Education Act. In all three cases the

placement and supervision was carried through by the Registrar of Foster Homes for Difficult, Nervous and Retarded Children at the Child Guidance Council in London.

Miss Dunsdon sees each child in the clinic for the purpose of giving an intelligence test. In many cases it is possible to arrange for the remedial coaching of retarded children at school but in certain cases it has been considered advisable to carry this out at the clinic. During 1938 various voluntary teachers have helped in this work and for the last three months, with Miss Nunn's generous co-operation, specially selected students from Fishponds Diocesan Training College have come regularly to assist.

The major part of Miss Howarth's work has continued to be the interviewing of parents. These interviews, numbering 1,039, have taken place in the clinic. Home and school visits are also important but have, at times, had to be postponed owing to the pressure of clinic work. The appointment of the second social worker will greatly increase the efficiency of this department.

Visits to schools are a valuable part of the work of the clinic. Two hundred and seventy-six such visits were paid during the year, the work being shared by the psychological and social service departments according as to whether the child's problem arises mainly from specific educational disabilities or general retardation, or, on the other hand, involves the understanding of social and parental problems. As far as possible one or more visits have been paid to each school attended by a child under treatment at the clinic and at each visit all the children attending from that school may be discussed.

In Child Guidance it is not always easy to assess results of treatment. The children may appear to make satisfactory adjustments and then under stress break down at a later date. For this reason it was decided to make no attempt at an assessment of results in any case until at least twelve months after it had been closed, and it was, therefore, only possible towards the end of 1938 to begin following up treatment and supervision cases which had been closed at the end of 1937. Enquiry has been made into eighty three such cases and where possible the opinion of the person who actually referred the case to the clinic has been obtained. That means that it is the same person who originally felt the problem required treatment is now being asked about the condition of the

child. Sixty four have continued to improve, seventeen were considered to have shown no change, and in two cases further symptoms have developed."

#### CLINICAL RETURN.

##### *Psychiatric Department*

Psychiatric examinations ... ..	235
Physical examinations ... ..	203
Treatment interviews with children	1090
Treatment interviews with parents	192
Play group attendances ... ..	465

##### *Psychological Department*

Examinations ... ..	225
Re-examinations ... ..	29
Treatment interviews ... ..	396
Interviews with parents ... ..	8
School visits ... ..	85

##### *Social Service Department*

Interviews with parents in clinic	1039
Interviews with children in clinic	7
Other interviews in clinic ...	15
Home visits ... ..	279
School visits ... ..	191
Other visits ... ..	19

#### (h) Dental Clinics.

Mr. W. H. B. Stride, L.D.S., Supervisory Dental Surgeon reports as follows :—

"The number of whole time dentists has been increased to ten by three appointments made in January. Mr. Hazell and Mr. Rees continue to give 6 and 7 sessions respectively to the inspection and treatment of school children.



Each year more sessions are needed for health work, and this reduces the number available for school work which this year was 4,379 sessions or equivalent to the full time of 8·8 dentists. It will therefore be necessary to ask for additions to the staff when further clinics are available.

The number of children inspected in school has increased to 40,398 as well as 1,134 nursery children, and this occupied 337 sessions as against 4,042 sessions given to treatment, a ratio of 1 : 11·6.

No special efforts have been made to raise the consent rate, but as treatment has been made more easily obtainable and has become increasingly appreciated, this has steadily increased and is now 68%.

The number of casualties has risen to 3,316, and in accordance with the wish of the Board parents are now notified that where a refusal is given no treatment will be available at the Clinics. No doubt some exceptions will be made to this rule in special cases referred by the medical officers as needing immediate treatment, or when the parent has made genuine but unsuccessful efforts to obtain treatment.

Two inspections were made in secondary schools during the year, but on receipt of a letter from the Board on this question, the treatment of secondary schools has been postponed pending further consideration. The treatment of scholarship cases is still being undertaken.

No orthodontic cases are undertaken unless they can be dealt with by extractions, other cases being sent to the voluntary hospitals.

The number of permanent fillings has risen to nearly 18,000 and every effort is made to increase the interest in this part of the work. Unfortunately, in many cases it is impossible to get the parents' consent until towards the end of school life, by which time many teeth have become unsalvageable or have been lost.

Lectures have been arranged by the Dental Board to take place in the Autumn in the senior reorganised schools and it is hoped that these will further help to raise the consent rate.

The following table gives details of the work done by the whole-time Dentists during the year :

No. of children inspected	...	...	...	43,714
No. of children referred for treatment	...	...	...	35,719
No. of children actually treated	...	...	...	22,728
No. of teeth extracted :	Permanent	...	9,853	} 46,333
	Temporary	...	36,480	
No. of teeth filled :	Permanent	...	17,958	} 19,045
	Temporary	...	1,087	
No. of anaesthetics (local)	...	...	...	5,998
No. of anaesthetics (general)	...	...	...	15,828
No. of dressings	...	...	...	3,823
No. of other operations	...	...	...	5,310
No. of attendances for treatment	...	...	...	44,789

The dental treatment of mothers and young children under the joint scheme of the Education Committee and the Maternity and Child Welfare Committee was modified during the year by the Health Committee appointing a dentist to deal with these cases. Particulars of the work done by the school dentists are given below :

			<i>Mothers.</i>	<i>Young Children.</i>
No. inspected	...	...	506	969
No. treated	...	...	455	968
No. of attendances	...	...	1,264	1,352

The above work occupied 225 sessions of the dental surgeons' time, and 2,616 attendances were made."

#### (i) **Orthopaedic and Postural Defects.**

The provision of hospital treatment for tubercular and other orthopaedic conditions is as set out in previous reports.

The work of the Education Committee's Orthopaedic Clinic at Redcross Street School has been carried on as in previous years. Provision has been made at the Central Health Clinic for the orthopaedic examination and treatment of elementary school children and pre-school children, when the physically defective children now at Redcross Street are transferred to the proposed open-air school at Novers. Massage and remedial exercises have been carried out by one of the masseuses at the Central Health Clinic during the year.

Mr. Hubert Chitty, M.S., F.R.C.S., the Orthopaedic Surgeon, reports as follows :—

“ The numbers attending the Redcross Street Clinic continue to increase, but there appear to be fewer deformities of sufficient severity to require operative treatment than was the case some years back.

The excellent facilities for X-ray work now provided at the Central Clinic are a very great asset, and the proximity of this Clinic to Redcross Street is a great saving of time to patients and their parents.

The masseuses carry out a very great deal of remedial work with excellent results and the number of children discharged cured is most satisfactory.

The provision of surgical boots and appliances and their subsequent repair is a large and expensive item as small children give them very hard wear. It is however a very necessary form of expenditure and I am glad to say that our cripples are kept exceptionally well shod in spite of all difficulties.”

The following Table shows the various ailments found amongst the patients seen :—

	<i>Age 5 and over.</i>			<i>Under age 5.</i>
Paralysis : (a) Flaccid	...	62	20	
(b) Spastic	...	39	14	
Tuberculosis of Bones and Joints		27	5	
Congenital abnormalities of				
Bones and Joints	...	65	42	
Amputations	...    ...    ...	3	—	
Rickets	...    ...    ...	17	67	
Genu valgum	...    ...	35	87	
Various (flat-foot, spinal curva-				
ture, etc.)	...    ...	379	62	
		<hr/>	<hr/>	
		627	297	
		<hr/>	<hr/>	

In addition to the above, 626 re-examinations were made during the twelve months.

The operations performed at Winford or one of the City Hospitals were as follows :—

Osteotomy	...	...	...	...	13
Tenotomy	...	...	...	...	27
Tendon transplant	...	...	...	...	10
For tuberculous glands and joints	...	...	...	...	4
For hammer toes	...	...	...	...	12
For stabilization of feet	...	...	...	...	1
For torticollis	...	...	...	...	3
Dislocated hip	...	...	...	...	2
Wrenching and Plaster	...	...	...	...	1
Various	...	...	...	...	9

The provision and maintenance of surgical boots and appliances is a most important matter at a clinic of this kind, and during the year 191 recommendations were dealt with through the agency of the School Medical Officer.

#### (j) **Heart Disease and Rheumatism.**

Professor C. Bruce Perry reports :—

“ The work of the Heart Clinic has continued as before, and there is little to add to the detailed description given in previous reports.

During 1938, 193 new cases have attended the Cardiac Clinic, and 924 re-examinations have been made, making the total number of attendances 1,117. The following Table shows how the cases have been dealt with :—



## SUMMARY OF CASES ATTENDING CARDIO-RHEUMATIC CLINIC.

	No treatment or restriction.	No treatment, but restriction of games.	Treatment, and attend school.	Treatment, and exclude from school.	Institutional treatment.	TOTAL.
NEW CASES.						
Rheumatic Heart Disease	25	12	4	5	21	67
Chorea	—	—	—	1	8	9
No Organic Disease	100	—	2	—	—	102
Congenital Heart Disease	10	—	—	—	1	11
Doubtful	3	1	—	—	—	4
	138	13	6	6	30	193
RE-EXAMINATIONS						
Rheumatic Heart Disease	432	176	36	9	21	674
Chorea	33	1	2	3	3	42
No Organic Disease	123	—	2	—	—	125
Congenital Heart Disease	52	11	7	5	1	76
Various	5	1	1	—	—	7
	645	189	48	17	25	924

No. of individual children examined	...	704
No. of new cases for 1938	...	193
No. of re-examinations	...	924
Total No. of attendances	...	1,117

These figures are noteworthy for the marked fall in the number of new cases of rheumatic heart disease. Only once since 1931 has this number been less than 100 and that was in 1932 when 96 new cases were seen. This is most encouraging and gives grounds for hope that the changing conditions of child life is leading to a decrease in the incidence of this serious disease. It is hoped that the decrease will be maintained next year. In 1931 there were 751 re-examinations of children with rheumatic heart disease and in 236, or 31%, the child was considered fit to attend school with no restrictions. In 1938 there were 674 re-examinations of children with rheumatic heart disease and in 432, or 64%, the child was allowed to attend school normally without restriction. In fact the proportion of re-examinations requiring no treatment or restriction has steadily increased during the past eight years. Further, in 1931 seventy-two cases were considered unfit for school quite apart from those recommended for institutional treatment, whereas in 1938 the corresponding figure was 9. This is most encouraging evidence of the value of the work of the Clinic and of the institutional treatment now being provided at Winford."

**(k) Tuberculosis.**

A total of 1005 children was examined by the Tuberculosis Officer, of which 536 were old cases and 469 new. Of the latter 33 were classified as definite pulmonary tuberculosis, 56 as cases of non-pulmonary tuberculosis, 17 as suspected tuberculosis, and 363 as non-tubercular.

During the year, 150 children were discharged from sanatoria under the Health Committee's scheme after an average period of 216 days' treatment.

The number of attendances of children at the Tuberculosis Department was 2,748.

**(l) Artificial Sunlight Clinic.**

During 1938, 131 children of school age were given artificial sunlight treatment. Full details of the cases are given below :—

Defect.	No. treated.	Improved.	Stationary.
General debility ...	57	50	7
Bronchitis ...	18	15	3
Coughs, etc. ...	3	2	1
Enlarged glands ...	3	3	—
Malnutrition ...	12	10	2
Other defects ...	38	30	8
	131	110	21

The type of lamp used is the mercury vapour lamp, the cases having one, two or three courses. A course consists of twelve exposures of  $1\frac{1}{2}$  minutes at commencement increasing by  $\frac{1}{2}$  minute at each exposure.

**(m) Speech Clinic.**

The clinic for stammerers was continued during the year. Each child attends twice weekly for a period of 60 minutes each.

Miss D. Wilson, M.S.S.T., who is in charge of the clinic reports as follows :—

“The attendances at the Speech Clinic, apart from absence due to illness, have been steady since the granting of travel tokens.

The head teachers have been, in almost every case, most co-operative in spite of the fact that there has been no time available for school visiting. At present, all communication is by correspondence, which in many of the more difficult cases is inadequate.

The waiting list for the Speech Clinic could not be adequately dealt with owing to the limited number of sessions per week. Ten is the largest number desirable in one class. Therefore the scope of the Clinic can only be widened when there is accommodation for increasing the number of sessions. Owing to the fact that many children referred to the Clinic have not received treatment yet the teachers have gradually ceased to recommend children.

The length of period required for treatment is usually from six to twelve months. In severe cases of stammer with speech defect a longer time is necessary. No child is discharged until the school report, home report and clinic observation show that the child is ready. Cases discharged are followed up to see if improvement has been maintained.

*Results of treatment:* Dr. Bunting reports: 'It can be said that almost all cases, who have been regular attenders at the Speech Clinic, have shown improvement. This improvement, of course, varies from case to case, but there is no doubt that the work of the Clinic is amply justified by the results obtained. This is borne out by the special reports received from the schools. Apart from the stammer or speech defect a dramatic improvement is very often seen to take place in the general condition of the children. They become more reliant and self-confident, and physically often present a marked improvement. This contrasts markedly with the timid, shy and retiring children who come for treatment in the beginning. In consequence an improvement is very often noticed in their school work. I would say without hesitation that even if the Speech Clinic existed only for those above-mentioned benefits, apart from any improvements to speech, the work would be completely justified. Most children with defective speech possess a definite feeling of inferiority, and the regime of the Speech Clinic tends to banish this. It is a pity that the benefits to be derived from this Clinic should be denied to many owing to the existence of a long waiting list.'



Dr. Bunting visits the Clinic each month, and works in close co-operation with the Speech Therapist.

*Children attending—*

Stammerers	...	...	...	14	
Stammer with speech defect				8	
Speech defect		...	...	9	
					31
Discontinued attendance		...		4	
Left Bristol	...	...	...	1	
Left School	...	...	...	2	
Treatment temporarily suspended				2	
Transferred	...	...	...	2	
					11

*Cases discharged—*

Stammerers	...	...	...	12	
Stammer with speech defect				3	
Speech defect		...	...	2	
					17

Total 59

**(n) Medical Treatment of the Pre-school Child.**

Children under five years of age may be examined and treated at school clinics when reported by the Maternity and Child Welfare Department.

The Health Visitors are provided with cards by means of which cases of diseases of the eyes, ears, skin and minor ailments can be referred to the clinic for the district.

The following cases were dealt with in this way during the year :—

Eye disease	...	...	...	...	176
Otorrhoea	...	...	...	...	260
Skin diseases	...	...	...	...	765
Minor ailments	...	...	...	...	264
Various	...	...	...	...	318
					1,783

### VIII.—INFECTIOUS DISEASE.

The number of cases of diphtheria occurring in children of school age during the year was 535 as compared with 259 in 1937. The deaths from this disease were 16 as against 3 in the previous year.

During 1938, 3,429 children received a full immunising course of inoculations against diphtheria.

The complete figures for the year are as follows :—

Number received full course of immunising inoculations ... ..	3,429
Number Schick-tested after immunising course	1,989
Number of observations ... ..	1,867
Results—	
Negative ... ..	1,767
Faint positive ... ..	30
Positive ... ..	70
Percentage negatives, 1938 ... ..	94·6

---

No. Schick-tested before inoculations...	503
Number of observations ... ..	481

Results—

Negative ... ..	310
Faint positive ... ..	3
Positive ... ..	168
	481

The incidence of scarlet fever was higher than in 1937 ; 849 cases as against 469.

The total number of non-notifiable diseases shows an increase of 83 as compared with 1937.

The following Table gives details of notifiable and non-notifiable infectious diseases for the year :—

A.—CASES OF NOTIFIABLE INFECTIOUS DISEASES AMONGST SCHOOL CHILDREN,  
WITH CONTACTS.

1938.	Cerebro-Spinal Fever.		Scarlet Fever.		Diphtheria.	
	Cases	Contacts	Cases	Contacts	Cases	Contacts
1st Quarter .. ..	3	5	163	176	105	162
2nd Quarter .. ..	—	—	176	183	70	87
3rd Quarter .. ..	—	—	172	179	86	117
4th Quarter .. ..	3	3	338	400	274	316
	6	8	849	938	535	682

Seventeen cases of Polio-myelitis and one case of Encephalitis Lethargica also were notified.

CASES OF NON-NOTIFIABLE INFECTIOUS DISEASES AMONGST SCHOOL CHILDREN.

	1st Quarter.	2nd Quarter	3rd Quarter.	4th Quarter.	Totals.
Whooping Cough ..	149	63	83	274	569
Chicken Pox .. ..	675	435	259	262	1,631
Mumps .. ..	40	20	6	31	97
Measles .. ..	3,564	332	55	12	3,963
German Measles ..	24	14	18	17	73
	4,452	864	421	596	6,333

B.—1938.

Cause of Death (Ages 5-15).

Scarlet Fever .. ..	..	..	..	..	..	..	—
Diphtheria and Croup ..	..	..	..	..	..	..	16
Influenza .. ..	..	..	..	..	..	..	1
Encephalitis Lethargica ..	..	..	..	..	..	..	—
Cerebro-spinal Fever ..	..	..	..	..	..	..	—
Tuberculosis of Respiratory System ..	..	..	..	..	..	..	2
Other Tuberculous Diseases ..	..	..	..	..	..	..	7
Cancer and Malignant Disease ..	..	..	..	..	..	..	2
Diabetes .. ..	..	..	..	..	..	..	1
Heart Disease .. ..	..	..	..	..	..	..	1
Pneumonia (all forms) ..	..	..	..	..	..	..	3
Rheumatic Fever .. ..	..	..	..	..	..	..	6
Appendicitis .. ..	..	..	..	..	..	..	8
Digestive Diseases .. ..	..	..	..	..	..	..	4
Congenital Debility and Malformation ..	..	..	..	..	..	..	2
Violent Deaths .. ..	..	..	..	..	..	..	11
Nephritis .. ..	..	..	..	..	..	..	8
Measles .. ..	..	..	..	..	..	..	1
Other Diseases .. ..	..	..	..	..	..	..	20
All Causes .. ..							93

IX.—OPEN AIR EDUCATION.

Except for the fact that most of our modern schools are built on open air lines, no special provision is made for open air education in public elementary schools.

## **X.—PHYSICAL INSTRUCTION.**

The closest co-operation exists between the School Medical Officer and the Organisers of Physical Training. Children unfit for games and exercises, or requiring modifications of these are notified to the Head Teachers.

Mr. J. McMilne, Chief Organiser of Physical Training, reports :—

“ The year 1938 will remain as a landmark in the development of Physical Education in Bristol for many years. The provision of physical training clothing and shoes to all senior children for use during the physical training periods has been welcomed by teachers, parents and children alike and with it there has been a striking improvement not only in the general standard but also in the spirit of the work.

Changing rooms have been provided in a number of schools and shower baths are used regularly in two boys' and two girls' schools.

The Education Committee keenly appreciate the advantages that would be derived if gymnasia were available for all senior schools and have included a number of these, complete with changing rooms and shower baths, etc., in their building programme for the next few years.

### **Swimming.**

Instruction in swimming and life-saving has received special consideration in Bristol for many years and the extension made in the swimming scheme during the year is further proof of the desire of the Education Committee to make every child in Bristol a swimmer. Approximately 8,000 children attended the Baths weekly over a period of twenty weeks during the summer and autumn terms and nearly 1,000 have continued attending during the winter months.

2,322 children obtained the Proficiency Certificate (50 yards girls, 100 yards boys) awarded by the Baths Committee and over 1,000 Royal Life Saving Society Awards were gained.

### **Playing Fields.**

The two new playing fields at Southmead and Filwood Park have enabled more senior children to attend organised games



regularly and the provision of a pavilion with shower baths on the Portway Playing Field is only the beginning of the scheme for the improvement of facilities on all the Committee's Playing Fields.

### **Refresher Courses for Teachers and Club Leaders.**

The following Refresher Courses have been held during the year :—

#### *Men.*

1. Teachers in Senior Departments (Swimming).  
January to March. 13½ hours Number on Registers 31
2. Teachers in Junior Schools.  
February to March. 20½ hours. Number on registers 27
3. Club Leaders' Course.  
January to March. 13½ hours. Number on registers 11
4. Club Leaders' Course.  
March to May. 10 hours. Number on registers 22
5. Evening Institute Course.  
May to July 12 hours. Number on registers 46

#### *Women.*

1. Teachers in Infants' Schools.  
February to March.  
Tuesdays ... 18 hours. Number on registers 43  
Thursdays ... 18 hours Number on registers 42
2. Evening Institute and Club Leaders.  
January to April. 16½ hours. Number on registers 39
3. Organised Games.  
May to July 15 hours. Number on registers 65
4. Swimming  
May to July 8 hours Number on Registers 25
5. Evening Institute and Club Leaders.  
September to December. 12 hours. Number on registers 66

In addition to these refresher courses the Men and Women Teachers' Physical Training Associations have held weekly meetings and although the work has been mainly of a recreational nature the attendance at these meetings speaks highly of the enthusiasm and interest of the teachers in physical education.

The Committee arranged for seven teachers to attend a three months course in physical education and also granted leave of absence with three months' pay to one man and one woman teacher to allow them to attend a year's course at a Physical Training College.

As in previous years the Committee paid the travelling expenses and fees for a number of teachers who attended Easter and Summer Vacation Courses.

### **Recreative Physical Training.**

The development of this branch of physical education has continued during the year, there having been an increase of about 600 adult students attending Evening Institute classes this winter making a total enrolment of 4,929.

In previous years all Boys' Club Classes were affiliated to Evening Institutes and last year approximately 280 attended these classes and this enrolment was included in the numbers attending Evening Institute Classes.

This winter the Education Committee made a grant to the Bristol Federation of Boys' Clubs for the provision of instructor leaders and both the number of clubs participating in the scheme and individual members attending the classes have increased by 100%. The actual increase in the numbers taking part in recreative physical training is therefore approximately 1,100.

The experiment in connection with the Boys' Clubs has proved very satisfactory and it is felt that this method will greatly assist the development of activities along the right lines in Boys' Clubs.

### **Play Centres.**

With the object of providing indoor playtime facilities for children living in the new housing estates, a number of new Play Centres were opened this winter. With the exception of those in

the Knowle West and Horfield areas where the centres are open on four evenings per week, boys and girls meet on two separate evenings per week.

Attendances at these new centres have entirely justified their opening.

As an experiment two of the Committee's Playing Fields were opened during the summer vacation as Holiday Play Centres. The centres were open for three sessions each day, i.e., 10.0 a.m. to 12 noon, 2.0 p.m. to 5.0 p.m. and 6.0 p.m. to 8.0 p.m. and the attendance at each session was approximately 350 to 400.

In addition to the normal holiday activities concerts were arranged occasionally during the evenings. These proved very popular and were attended not only by the children but by their parents as well.

The experiment proved to be a great success, the children showing a keen interest and appreciation of the games and facilities provided for them."

The average attendances at each centre were as follows :—

<i>Summer Play Centres</i> (13).	Average evening attendance, 141
<i>Summer Holiday Play Centres</i> (2)	Average attendance per session, 350 to 400
<i>Winter Play Centres</i> (24)	Average evening attendance 278

## XI.—PROVISION OF MEALS.

During the year 716,139 free dinners have been supplied as compared with 353,119 in 1937. In addition, 1,544,377 free milk meals were given.

The School Medical Staff and Head Teachers notify all children whom they consider would benefit from free meals and/or milk. As soon as cases are notified arrangements are made for their inspection by a medical officer, who issues a certificate recommending meals and/or milk for a period of six months. On receipt of the certificate meals commence at once pending the investigation into the family circumstances.

During 1938, 12,367 examinations of children for free milk and/or meals were made and extra nourishment was recommended as follows :—

Meals	...	...	...	...	...	24
Milk and meals	...	...	...	...	...	5,321
Meals, and milk twice daily	...	...	...	...	...	2,105
Milk only	...	...	...	...	...	2,917
Milk only twice daily	...	...	...	...	...	2,000
						<hr/> 12,367 <hr/>

*Milk in schools.*

The supply of milk under the “milk in schools scheme” continues and thanks to the loyal support of the scheme by the head teachers, the quantity consumed remains at a good level as is shown by the following summary of Forms 208M on 1st October, 1938.

SCHOOLS.	No. on books	No. receiving milk		Total	% of number on books	
		Free	On payment		1/10/38	31/3/38
Elementary (including Central Schools) ...	49,885	6,159	28,012	34,171	68·5	68·6
Secondary (including Technical School) ...	2,251	26	452	478	21·2	22·9
Special (excluding Knowle Open-air School)	398	180	202	382	96·0	88·1
Nursery Schools	52,534	6,365	28,666	35,031	66·6	66·5
	363	82	281	363		
	52,897	6,447	28,947	35,394		

Only pasteurised milk is supplied and samples are taken periodically at the schools for examination at the Preventive Medicine Department.



It has been reported that milk bottles capped with cardboard discs have proved unsatisfactory, the milk percolating through the discs and collecting dust in transit.

In consequence, arrangements have been made for tradesmen to deliver all milk to schools in bottles overcapped with aluminium caps, thus reducing the possibility of contamination.

## **XII.—CO-OPERATION OF PARENTS.**

Some days before a routine medical inspection in school, written notification is sent to the parents requesting their attendance at the examination and during the year the number present at routine inspections was 13,130. The following is an analysis of these attendances :—

Code Groups.	No. of Children Examined	No. of Parents Present	Percentage
Entrants ...	5,142	4,675	90·91
Second Age Group	5,913	4,776	80·77
Third Age Group	5,366	3,579	66·70
Other Routines ...	178	100	56·18
	16,599	13,130	79·10

At the clinics, when any special examination is required (*e.g.*, for eye, ear and orthopaedic cases) the parent almost invariably accompanies the child.

The interest amongst the parents in regard to matters of hygiene is maintained, and on the whole they co-operate readily with the School Medical Department in any efforts to improve the health of the children.

### **Co-operation of Teachers.**

The teachers have continued their invaluable help during the year. Their co-operation in connection with the Medical Inspection in schools and following up of cases found to require treatment; the attendance of cases at the Health Centres; the immunisation of children against diphtheria and in various other ways has enabled the School Medical Service to accomplish what would otherwise have been impossible.

### **Co-operation of School Attendance Officers.**

A close relationship exists between the School Medical and School Attendance Departments. The Superintendent Attendance Officer and his staff provide reports on a large number of children, and assist greatly in securing the attendance of absentees for examination at clinics. By their visits to homes, they obtain information in regard to environment and other factors which may affect the health of children, and this is often of great assistance to us in dealing with difficult cases. A number of parents who refuse to obtain treatment for their children are visited and action is taken in cases of neglect and cruelty.

The Attendance Officers also help by collecting the small weekly instalments by which the majority of parents prefer to pay for spectacles and surgical appliances supplied to their children. This means a great deal of home visiting and a considerable amount of clerical work.

### **Co-operation of Voluntary Bodies.**

The Bristol Crippled Children's Society assisted in dealing with a large number of crippled cases during the year. 119 were sent to the Winford Orthopaedic Hospital for prolonged periods, 8 to other hospitals at the seaside or in the country, 126 to convalescent homes, and 68 to farms.

Rheumatic heart and orthopaedic cases who have received treatment at the Winford Orthopaedic Hospital, are systematically followed-up by the Society after discharge, being visited periodically at 6, 9 and 12 monthly intervals. In addition cases are referred for investigation from the rheumatic heart and orthopaedic clinics. One hundred and twenty-nine new cases (69 rheumatic heart and 60 orthopaedic) were dealt with during 1938, nineteen cases being sent away for periods of convalescence. The total number of home visits paid in connection with new and old cases was 2,594.

The Bristol Crippled Children's Society Committee, of which Dr. Dalby and Mr. Gregory are members, meets at regular intervals to consider means of assisting patients after their discharge from Winford Hospital, or Redcross Street School, and also children leaving the deaf and partially sighted schools.

Cases where definite cruelty is discovered are reported to the National Society for the Prevention of Cruelty to Children, and

the parents cautioned, or prosecuted by their Inspectors. The good work done by this Society is very much appreciated by the department.

### **XIII.—BLIND, DEAF, DEFECTIVE & EPILEPTIC CHILDREN.**

The methods of ascertainment and classification of these cases have been described in previous reports. At the present time three of the medical officers in the department are recognised by the Board of Education for the purpose of Section 55, Education Act, 1921, and Section 31, Mental Deficiency Act, 1913.

#### **(a) Feeble-minded Children.**

The Committee maintains two schools for feeble-minded children : Redcross Street School which accommodates 199, and Orchard Place School which accommodates 88. The total number in the two schools at the end of the year was 165.

The figures are set out below :—

		<i>Redcross Street.</i>	<i>Orchard Place.</i>	<i>Total.</i>
No. admitted during 1938	...	35	9	44
No. discharged	... ..	36	14	50
No. on register at end of year		119	46	165

The number of retarded children referred by Head Teachers and others and investigated by the certifying officers during the year was 101. In addition, 21 children attending Special Schools were examined at the request of their parents, who made application for them to leave school before attaining the age of sixteen.

*Psychological Service.* Miss M. I. Dunsdon, M.A., psychologist, reports as follows :—

“ During the past year, 97 children referred for statutory examination have been examined by me in the first instance, in order to eliminate from those subsequently examined by the Certifying Officer, those cases in which educational, but not mental retardation, was causing school failure.

The results were as follows :—

Referred to the Certifying Officer	...	54
Referred to the Child Guidance Clinic	...	12
Referred back to the Education Authority as not actually defective but borderline, and so dull as to need Special Class treatment in the ordinary elementary school	...	26
Referred back to school—as of normal intelligence	... ..	5

In addition to these 97 new cases, 55 re-examinations were made of children already in the Committee's Special Schools. Of this number, 26 have been referred back to the Certifying Officer as having proved ineducable."

An investigation has also been carried out by the psychologist on the results of over 200 cases seen by her at the Child Guidance Clinic, reference to which will be found in the report on that clinic.

#### (b) **Physically Defective Children.**

At Redcross Street School the recognised accommodation for physically defective children is 140. The cases admitted include disease of bones, joints and general nervous system, with, in addition, a number of "cardiac cripples" having congenital or rheumatic heart disease.

The children are conveyed to and from Redcross Street School in special ambulances, and the majority of the scholars have their mid-day meal in school.

Mr. Chitty, the Orthopaedic Surgeon, or the Assistant, Mr. Pridie, visits the school twice weekly to examine children and to advise as to treatment, which is carried out in the Orthopaedic Clinic attached to the school.

A considerable number of children under school age also are referred to this clinic by the Maternity and Child Welfare Department. In this way, children with crippling defects are treated during the earliest stages of the disease.

The Nurse in attendance carries out massage and electrical treatment, and also all the necessary work in connection with the



treatment of eye, ear, skin and minor ailments for both departments of the school. Massage and electrical treatment is also given at Central Health Clinic. The total number of attendances made for treatment last year was 13,091 of which 6,129 were for orthopaedic treatment and 6,962 for the other ailments mentioned.

Surgical boots and appliances are obtained for the children on the advice of the School Medical Officer, and a large number of repairs to apparatus are made every year through the same agency.

During the year the following admissions and discharges were made :—

No. of admissions	...	...	...	...	25
No. of discharges	...	...	...	...	32
No. on register at end of year			...	...	80

The following table shows the different ailments from which the children are suffering :—

				<i>Boys.</i>	<i>Girls.</i>	<i>Total.</i>
Paralysis : (a) Flaccid	...			14	9	23
(b) Spastic	...			4	6	10
Tuberculosis : bones and joints				4	3	7
Hemiplegia	...	...	...	5	1	6
Osteomyelitis	...	...	...	1	—	1
Spinal curvature (non-tubercular)				2	5	7
Rickets	...	...	...	3	3	6
Heart disease and chorea	...			3	—	3
Talipes	...	...	...	2	2	4
Encephalitis	...	...	...	1	—	1
Petit mal	...	...	...	1	—	1
Hydrocephalus	...	...	...	—	1	1
Tracheotomy	...	...	...	—	1	1
Dural abscess	...	...	...	1	—	1
Multiple fractures	...	...		1	—	1
Various	...	...	...	4	2	6

In addition one boy is maintained at the Heritage Craft Schools, Chailey.

(c) **Delicate Children.**

(1) *Knowle Open Air School.* The delicate and convalescent attend this school on the recommendation of the medical staff. A Medical Officer visits the school every week to examine special cases and ensure that each child is inspected at least once every six months. A nurse is in attendance all day for the purpose of treating minor ailments, supervising meals, etc. One afternoon a week is devoted to home visits.

Dental treatment is carried out by one of the Committee's dentists.

During 1938 the figures for the School were as follows :—

No. of admissions	...	...	...	...	68
No. of re-admissions	...	...	...	...	6
					<hr/>
No. discharged fit for work	...	...	...	...	8
No. discharged fit for ordinary school	...	...	...	...	55
No. discharged for other reasons	...	...	...	...	11
					<hr/>
					74
					<hr/>
No. on registers at end of 1938	...	...	...	...	118
Average attendance	...	...	...	...	89·6

(2) *Park Classes.* In St. George, Eastville and Bedminster Parks, classes for delicate children are held in the band stands all the year round. The classes are conducted on similar lines to those of Knowle Open Air School, and have the advantage of being near to the homes of the children.

	<i>Bedminster</i>	<i>Eastville</i>	<i>St. George</i>
No. on the registers at the end of 1938	...	27	24
Average attendance for the year	...	23·2	22·3
			18·2

In addition there is one girl at St. Patrick's Open Air School, Hayling Island.

*Carlton Park Special School.*

This Special School now has accommodation for 125 children. There were on the registers at the end of the year 90 children, of whom 50 have progressive short sight or seriously damaged vision, 10 are partially deaf and 30 totally deaf.

Although these children are in the same building and under the same Head Teacher, the three different groups are, of course, kept quite separate both educationally and socially.

**(d) Deaf-mute children.**

No. of admissions during 1938	...	...	...	3
No. discharged	...	...	...	4
No. on register at end of year		...	...	30

Of this total, 4 girls come from other Authorities. In addition, 2 boys are maintained at the Institution for Deaf and Dumb Children, Exeter, and 1 boy at Rayners School for the Deaf, Penn, Bucks.

**(e) Partially Sighted Children.**

In this department, the children have defects of the eye or vision which make teaching by ordinary methods undesirable. At the same time, they are not cases which require attendance at a Blind School, and are not likely to take up occupations generally selected by the blind. The whole curriculum is therefore designed to prevent eye strain, the teaching is mainly oral, and every effort is made to train the children to avoid overuse of the eyes. All cases are under careful and regular supervision by the ophthalmic consultant.

No. admitted during 1938	...	...	...	11
No. discharged	...	...	...	27
No. on register at end of year		...	...	50

Of this total, 3 boys come from other Education Authorities.

**(f) Partially Deaf Children.**

In the Partially Deaf Department, the children are too deaf to benefit from the instruction given at ordinary school. They still

retain sufficient hearing, however, to keep them from degenerating into the deaf-mute condition, and every effort is made to retain the speaking voice by means of speech exercises and lip-reading.

No. admitted during 1938	...	...	...	1
No. discharged	...	...	...	4
No. on register at end of year	...	...	...	10

Of this total, 1 boy comes from another Authority.

**(g) Blind Children.**

Seventeen blind children are maintained by the Education Committee at the following school :—

Westbury Blind Asylum	...	17 (13 boys, 4 girls).
-----------------------	-----	------------------------

In addition, one girl is maintained at North Wales School for Blind Children, Rhyl, and one boy at the Roman Catholic Blind School Liverpool.

**XIV.—FULL TIME COURSES OF HIGHER EDUCATION  
FOR BLIND, DEAF, DEFECTIVE AND  
EPILEPTIC STUDENTS.**

Provision is made at the Royal School of Industry for the Blind, Westbury-on-Trym, for Higher Education blind cases. Most of the young people concerned were in the school before reaching the age of 16. The number being maintained at the school by the Local Education Authority at the end of 1938 was 7.

Payment has also been made by the Authority towards the maintenance of six adult trainees during their period of training at the Blind Workshops. As soon as their period of training is completed, they are employed as paid workers in the workshops and the financial liability is then undertaken by the Blind Persons Act Committee.

No contribution is being made at the present time towards the Higher Education of any deaf, or epileptic young persons, but one defective boy is maintained at the Stanmore Cripples Training College, and one blind boy is receiving training in massage at the National Institute for the Blind.



**XV.—NURSERY SCHOOLS AND CLASSES.**

The number of children on the registers at the four nursery schools at the end of 1938 was as follows :—

	<i>No. on registers</i>		
St. Werburgh's Nursery School	...	...	171
Friar's Nursery School	...	...	100
Ilminster Avenue Nursery School	...	...	90
Barton Hill Nursery School	...	...	197

Nursery Classes were opened during 1938 at the following schools :—

	<i>Classes.</i>		<i>Accommodation.</i>
Carlton Park (additional)	...	1	34
Newfoundland Road	...	1	40
Chester Park	...	1	40
Hillfields Park	...	1	40
Shirehampton	...	1	40
St. Mary's R.C.	...	1	40
Ilminster Avenue	...	1	34
Eastville	...	1	36
Bedminster Down	...	2	80
			<hr/>
		10	384
Nursery Classes opened prior to 1938		11	425
		—	—
		21	809
		—	—

Partially provided nursery classes, that is, classes equipped on nursery lines in order to make better provision for children aged 3 to 5 years, have been opened at the following schools :—

	<i>Classes.</i>		<i>Accommodation.</i>
Parson Street	...	1	40
Anglesea Place	...	1	40
Windmill Hill	...	2	80
Bedminster C.E.	...	1	40
St. Philip's	...	1	30
			<hr/>
		6	230
			<hr/>

Dr. Marguerite Hughes, Chief Assistant to the Maternity and Child Welfare Department supervises the Medical work in the Nursery Schools and Classes and medical inspection is carried out by the medical officers of the Maternity and Child Welfare Department. The number of examinations made during the year was 2,494, and the following tables give details of the work :

TABLE I.  
ROUTINE EXAMINATIONS.

			Number examined.		Cases for action.	
Nursery Schools	..	..	397		71	
„ Classes	..	..	611		111	
			<hr/>		<hr/>	
Total	..	..	1,008		182	
			<hr/>		<hr/>	
Special Inspections	..	..		.. ..	247	
Re-inspections	..	..	..	.. ..	1,239	

CLASSIFICATION OF NUTRITION.

			No. examined.	A.	B.	C.	D
Nursery Schools	..	..	397	20	329	48	—
„ Classes	..	..	611	65	482	64	—
			<hr/>				
Total	..	..	1,008	85	811	112	—
			<hr/>				

TABLE II.  
RETURN OF DEFECTS FOUND BY MEDICAL INSPECTION.  
A.—RETURN OF DEFECTS FOUND BY MEDICAL INSPECTION.

Defect or Disease.		Routine Inspections.		Special Inspections.	
		No. of Defects.		No. of Defects.	
		Requiring treatment	Requiring to be kept under observation, but <i>not</i> requiring treatment	Requiring treatment	Requiring to be kept under observation, but <i>not</i> requiring treatment
(1)		(2)	(3)	(4)	(5)
Skin	1. Ringworm—Scalp .. ..	—	—	—	—
	2. " " Body .. ..	—	—	3	—
	3. Scabies .. ..	2	—	1	—
	4. Impetigo .. ..	2	—	13	—
	5. Other Diseases (Non-Tuberculous) ..	10	—	15	—
	TOTAL (Heads 1 to 5) ..	14	—	32	—
Eye	6. Blepharitis .. ..	4	—	—	—
	7. Conjunctivitis .. ..	1	—	2	—
	8. Keratitis .. ..	—	—	—	—
	9. Corneal Opacities .. ..	—	—	—	—
	10. Other Conditions (excluding Defective Vision and Squint) ..	1	—	2	—
	TOTAL (Heads 6 to 10) ..	6	—	4	—
	11. Defective Vision (excluding Squint)	5	—	1	—
	12. Squint .. ..	11	—	—	—
Ear	13. Defective Hearing .. ..	4	—	—	—
	14. Otitis Media .. ..	31	—	2	—
	15. Other Ear Diseases .. ..	2	—	3	—
Nose and Throat	16. Chronic Tonsillitis only .. ..	53	2	1	—
	17. Adenoids only .. ..	3	—	—	—
	18. Chronic Tonsillitis and Adenoids ..	9	—	—	—
	19. Other Conditions .. ..	25	—	7	—
	20. Enlarged Cervical Glands (Non-Tuberculous) .. ..	5	—	1	—
	21. Defective Speech .. ..	1	—	1	—
Heart and Circulation	Heart Disease—				
	22. Organic .. ..	5	—	—	—
	23. Functional .. ..	3	—	1	—
	24. Anaemia .. ..	1	—	1	—
Lungs	25. Bronchitis .. ..	7	9	15	—
	26. Other Non-Tuberculous Diseases ..	—	2	11	—
Tuber- culosis	Pulmonary—				
	27. Definite .. ..	—	—	—	—
	28. Suspected .. ..	8	—	1	—
	Non-Pulmonary—				
	29. Glands .. ..	1	—	—	—
	30. Bones and Joints .. ..	—	—	—	—
	31. Skin .. ..	—	—	—	—
	32. Other Forms .. ..	—	—	—	—
	TOTAL (Heads 29 to 32) ..	1	—	—	—
Nervous System	33. Epilepsy .. ..	1	—	—	—
	34. Chorea .. ..	—	—	—	—
	35. Other Conditions .. ..	—	—	—	—
Deformities	36. Rickets .. ..	—	—	—	—
	37. Spinal Curvature .. ..	5	—	—	—
	38. Other Forms .. ..	6	—	—	—
39. Other Defects and Diseases (excluding Defects of Nutrition, Uncleanliness and Dental Diseases) .. ..		104	4	26	3
TOTAL NUMBER OF DEFECTS		310	17	107	3

TABLE III.

RETURN OF DEFECTS TREATED DURING THE YEAR ENDED 31st DECEMBER 1938

## TREATMENT TABLE.

*Group 1.—Minor Ailments (excluding Uncleanliness, for which see Table VI.)*

Disease or Defect. (1)	Number of Defects treated, or under treatment during the year.		
	Under the Authority's Scheme. (2)	Otherwise (3)	Total (4)
<i>Skin—</i>			
Ringworm Scalp—			
(i) X-ray Treatment .. ..	—	—	—
(ii) Other .. ..	—	—	—
Ringworm Body .. ..	1	—	1
Scabies .. ..	—	—	—
Impetigo .. ..	13	—	13
Other Skin Disease .. ..	12	—	12
<i>Minor Eye Defects—</i> .. ..	10	—	10
(External and other, hut excluding cases falling in Group II).			
<i>Minor Ear Defects</i> .. ..	4	—	4
<i>Miscellaneous</i> (e.g. minor injuries, bruises, sores, chilblains etc.) .. ..	12	3	15
Total .. ..	52	3	55

TABLE III (*continued*).

RETURN OF DEFECTS TREATED.

## TREATMENT TABLE.

*Group II.—Defective Vision and Squint (excluding Minor Eye Defects treated as Minor Ailments—Group I).*

	Number of Defects dealt with		
	Under the Authority's Scheme.	Otherwise	Total
Errors of Refraction (including squint) ..	23	—	23
Other defect or disease of the Eyes (excluding those recorded in Group I) .. ..	—	—	—
Total .. ..	23	—	23
	Under the Authority's Scheme	Otherwise.	Total.
Number of children for whom Spectacles were :			
(a) Prescribed .. ..	12	—	12
(b) Obtained .. ..	1	11	12



TABLE III (continued).  
RETURN OF DEFECTS TREATED.

## TREATMENT TABLE.

## Group III.—Treatment of Defects of Nose and Throat.

Number of Defects.													
Received Operative Treatment.												Received other forms of Treatment. (4)	Total number treated. (5)
Under the Authority's Scheme, in Clinic or Hospital. (1)				By Private Practitioner or Hospital apart from the Authority's Scheme. (2)				Total (3)					
(i)	(ii)	(iii)	(iv)	(i)	(ii)	(iii)	(iv)	(i)	(ii)	(iii)	(iv)		
—	—	—	—	5	—	4	2	5	—	4	2		
												4	15

(i) Tonsils only.

(ii) Adenoids only.

(iii) Tonsils and Adenoids.

(iv) Other defects of the nose and throat.

## TREATMENT TABLE.

## Group IV.—Orthopaedic and Postural Defects.

	Under the Authority's Scheme. (1)			Otherwise. (2)			Total number treated
	Residential treatment with education	Residential treatment without education	Non-residential treatment at an orthopaedic clinic	Residential treatment with education	Residential treatment without education	Non-residential treatment at an orthopaedic clinic	
	(i)	(ii)	(iii)	(i)	(ii)	(iii)	
Number of Children treated	—	—	10	—	—	—	10

TABLE IV.  
DENTAL INSPECTION AND TREATMENT.

## Dental Inspection and Treatment.

(1) Number of children inspected by the Dentist—

(a) Routine age-groups :

Age	2	3	4	5	6	7	Total
Number	14	249	503	302	44	22	1,134
(b) Specials	..	..	..	..	..	..	85
(c) TOTAL (Routine and Specials)	..	..	..	..	..	..	1,219
(2) Number found to require treatment	..	..	..	..	..	..	705
(3) Number actually treated	..	..	..	..	..	..	343
(4) Attendances made by children for treatment	..	..	..	..	..	..	447
(5) Half-days devoted to :							
	Inspection		..	..	..	..	9
	Treatment		..	..	..	..	—
(6) Fillings :	Permanent Teeth		..	..	..	2	
	Temporary Teeth		..	..	..	60	
	Total		..	..	..	—	62
(7) Extractions :	Permanent Teeth		..	..	..	9	
	Temporary Teeth		..	..	..	917	
	Total		..	..	..	—	926
(8) Administrations of general anaesthetics for extractions	..						333
(9) Other Operations :	Permanent Teeth		..	..	..	1	
	Temporary Teeth		..	..	..	76	
	Total		..	..	..	—	77

Artificial Sunlight Treatment has been given to 93 nursery school children, as compared with 5 cases in 1937. This has been rendered possible by transporting the cases from the nursery schools to and from the Central Health Clinic by means of the Special School Ambulance, one attendant in charge of the children being necessary on each journey.

Particulars in regard to the defects treated and the results of treatment are as follows :—

Defect.	No. treated.	Improved.	Stationary.
General debility ..	55	45	10
Bronchitis .. ..	3	3	—
Coughs, etc. .. ..	5	3	2
Enlarged glands ..	2	2	—
Malnutrition ..	2	1	1
Other defects ..	26	19	7
Total ..	93	73	20

## XVI.—SECONDARY SCHOOLS.

There are twelve non-municipal and four municipal secondary schools, with one junior technical school in the city.

### (1) Medical Inspection.

Medical inspection is only carried out in the municipal secondary schools and the junior technical school.

All children obtaining special places in secondary schools are required to pass a medical examination prior to admission, and the number so examined in 1938 was 396.

All the pupils of these schools, irrespective of whether they are free-place students or otherwise, are subjected to an annual medical inspection.

Parents are invited to attend but the response is not nearly so good as in the case of elementary schools.

The number of children examined in a routine way during 1938 was 1,716, including junior technical pupils.

The system of following up defects is the same as that for elementary school children.

**(2) Medical Treatment.**

Any physical defects found are notified to the parents, who usually make arrangements with the family doctor for treatment except in the case of defects which require prolonged or specialised treatment. For instance, ailments of the eye, ear, nose and throat are usually attended to at one of the school clinics. Spectacles are as a rule provided through the School Medical Department, on the prescriptions of the Committee's oculists.

Cases of spinal curvature, flat-foot, etc., are referred for examination to the Orthopaedic Clinic, and where necessary, treatment is provided at that clinic.

No differentiation is made between "special place" or fee-paying pupils who wish to avail themselves of treatment under the Authority's scheme. Whilst no charge is made for treatment at the school clinics, voluntary contributions are invited from those seeking dental treatment.

**XVII.—PARENTS' PAYMENTS.**

No charge is made to parents for treatment of either elementary or secondary school children but they are invited to make voluntary contributions.

The cost of spectacles and surgical boots is recovered from the parents by instalments which are collected by the Attendance Officers. The Education Committee, however, in necessitous cases may remit part or whole of the cost.

			£	s.	d.
Cost of spectacles	...	...	209	17	6
Amount collected	...	...	191	10	0
Cost of Surgical appliances	...	...	73	2	0
Amount collected	...	...	47	3	10

At the dental clinics the voluntary contributions amounted to £212 15s. 2d.

**XVIII.—HEALTH EDUCATION.**

The staff of the School Medical Service do not give any direct instruction in Health Education in schools. They have, however, given lectures on medical and dental work to various "parent-teacher" societies.

**XIX.—SPECIAL INQUIRIES.**

No special inquiries were carried out during the year.

**XX.—MISCELLANEOUS.**

The following report has been sent by Mr. L. A. Tavener, Employment of Children Inspector :—

“During the year there were 1,071 cases of infringement of the Children and Young Persons Act 1933 and Byelaws made in pursuance thereof :—

By employers	...	...	...	...	409
By parents	...	...	...	...	407
By street traders	...	...	...	...	27
Prosecutions, etc.	...	...	...	...	133
Street patrol work	...	...	...	...	95
					— 1,071

These were dealt with as follows :—

Warned	...	...	...	...	...	938
Prosecuted	...	...	...	...	...	8
Employment cards revoked	...	...	...	...	...	6
Employment cards refused	...	...	...	...	...	84
Street traders licences refused	...	...	...	...	...	28
Entertainments refused	...	...	...	...	...	6
Entertainments licence revoked	...	...	...	...	...	1
						— 1,071

**Registered Children.**

During the year 492 children between 13 and 14 years of age were registered for employment in—

		<i>Boys.</i>	<i>Girls.</i>
Delivery of newspapers	...	335	2
Delivery of milk	...	18	—
Indoor domestic work	...	—	—
Errands	...	48	2
Delivery of meat	...	27	—
„ bread	...	6	2
„ coal	...	1	—
„ groceries	...	24	—
„ greengrocery	...	27	—
		—	—
		486	6
		—	— 492

The girls registered for employment were employed as shop assistants.



**Young Persons.**

Young persons licensed to engage in street trading—

Selling newspapers	...	...	...	3
„ flowers and vegetables	...	...	...	1
Others	...	...	...	2
			—	6

**Entertainments.**

86 children were licensed under the Children and Young Persons Act 1933, to take part in public entertainments.

No. of children licensed by Bristol Authority	1
No. of children licensed by other Authorities	85
	— 86

66 visits were made to the theatres, apartments and schools, to ascertain that the conditions and restrictions of these licences were complied with.

3,026 children were granted permission to take part in 179 entertainments given for charitable purposes.

Halls and dressing-rooms were visited to ascertain that the general conditions under which these children were employed were satisfactory.”

**Junior Instruction Centres.**

The two centres have been visited periodically by two medical officers. The children, in the first instance, were reviewed to ascertain which children would accept medical examination. At this review any case considered to require milk as treatment was advised accordingly. At the succeeding visits, examination was offered to those children admitted since the previous visit ; special cases referred by the head teacher and cases marked for re-examination also being dealt with.

Eleven visits were made by the medical officers with the following results :—

No. of examinations :	Boys	118	Re-exams	2
	Girls	39	„	8
		—		—
		157		10
		—		—

	Requiring treatment.	Requiring to be kept under observation.
Malnutrition ... ..	9	1
Skin and hair ... ..	1	—
Teeth ... ..	30	1
Nose and throat ... ..	1	1
Glands ... ..	—	1
External eye disease ... ..	1	—
Defective vision ... ..	5	4
Ear Discharge ... ..	2	—
Hearing ... ..	2	—
Heart and circulation ... ..	2	1
Lungs ... ..	1	2
Other defects ... ..	4	5
Mental Defect ... ..	1	—

Free milk has been granted in some cases but in the majority of cases the children have preferred to purchase the milk.

The following table gives details of the dental work in connection with the two Centres :—

No. of children inspected ... ..	135
No. of children referred for treatment ... ..	134
No. of children treated ... ..	21
No. of attendances ... ..	41
No. of teeth extracted (permanent) ... ..	31
No. of teeth filled (permanent) ... ..	18
No. of anaesthetics (general) ... ..	17
No. of other operations ... ..	14

#### Remand Home cases.

At the request of the magistrates of the Juvenile Court arrangements have been made for all boys admitted to the Remand Home to be medically examined on admission. A medical report upon the lines of the "approved school" admission form is made in each case including information in regard to the boy's mental condition, the intelligence quotient being ascertained wherever the mental condition is below normal. This report is then available for the magistrates' information when the boy appears before the Court, and this procedure is carried out for all authorities sending boys

to the Home. The Medical Officer attends the Home weekly for this purpose and in case of need, further visits are arranged.

The Remand Home is used by the adjoining Counties for their cases and it has been arranged for each case on admission to bring a certificate of freedom from infection. Before any case leaves the Remand Home for an approved school, a medical examination is carried out within twenty-four hours of the time of leaving, and a clearance certificate is made out.

### **Mental Deficiency Act.**

Fifty-four cases were notified under the Mental Deficiency Act to the Local Control Committee during the year, and were classified as follows :—

					<i>Boys.</i>	<i>Girls.</i>	<i>Total.</i>
(1)	(i)	Children incapable of receiving benefit or further benefit from instruction in a Special School :					
		(a)	Idiots	...	2	—	2
		(b)	Imbeciles	...	20	10	30
		(c)	Others	...	—	—	—
	(ii)	Children unable to be instructed in a Special School without detriment to the interest of other children :					
		(a)	Moral defectives	...	—	1	1
		(b)	Others	...	7	3	10
(2)	Feeble-minded children notified on leaving a Special School on or before attaining the age of 16 ...				11	—	11
(3)	Feeble-minded children notified under Article 3, i.e., " special circumstances " cases ...				—	—	—
(4)	Children who in addition to being mentally defective were blind or deaf ...				—	—	—
Grand Total					40	14	54

The following special medical examinations were made during the year :—

Candidates for "Special Places" in Secondary Schools	...	396
Children examined under Employment of Children Act	...	480
Cases examined under the Superannuation Act on appointment to or discharge from the Corporation service	... ..	493
Cases examined at Remand Home	... ..	161

# **STATISTICAL TABLES.** **ELEMENTARY SCHOOLS.**

TABLE I.—MEDICAL INSPECTIONS OF CHILDREN ATTENDING  
PUBLIC ELEMENTARY SCHOOLS.

A.—ROUTINE MEDICAL INSPECTIONS.

Number of Inspections in the prescribed Groups :—

Entrants	..	..	..	..	..	..	..	5,142
Second Age Group	..	..	..	..	..	..	..	5,913
Third Age Group	..	..	..	..	..	..	..	5,366
Total	..	..	..	..	..	..	..	16,421
Number of other Routine Inspections	..	..	..	..	..	..	..	178
Grand Total								16,599

B.—OTHER INSPECTIONS.

Number of Special Inspections	..	..	..	..	..	..	..	37,311
Number of Re-inspections	..	..	..	..	..	..	..	37,334
Total	..	..	..	..	..	..	..	74,645

C.—CHILDREN FOUND TO REQUIRE TREATMENT.

Number of *individual children* found at *Routine* Medical Inspection to require Treatment  
(excluding Malnutrition, Uncleanliness and Dental Diseases) :—

Group (1)	For defective vision (excluding squint) (2)	For all other conditions recorded in Table II A. (3)	Total (4)
Entrants .. ..	75	426	493
Second Age Group .. ..	227	386	596
Third Age Group .. ..	268	285	540
Total (Prescribed Group) ..	570	1,097	1,629
Other Routine Inspections ..	4	10	14
Grand Total .. ..	574	1,107	1,643



TABLE II.

A.—RETURN OF DEFECTS FOUND BY MEDICAL INSPECTION IN THE YEAR ENDED 31ST DECEMBER, 1938

Defect or Disease.		Routine Inspections.		Special Inspections.	
		No. of Defects.		No. of Defects.	
		Requiring treatment	Requiring to be kept under observation, but <i>not</i> requiring treatment	Requiring treatment	Requiring to be kept under observation, but <i>not</i> requiring treatment
(1)		(2)	(3)	(4)	(5)
Skin	Ringworm :—				
	1. Scalp .. .. .	1	—	31	—
	2. Body .. .. .	3	—	231	1
	3. Scabies .. .. .	3	2	260	2
	4. Impetigo .. .. .	11	—	2,794	1
	5. Other Diseases (Non-Tuberculous) ..	12	6	2,449	15
	TOTAL (Heads 1 to 5) ..	30	8	5,765	19
Eye	6. Blepharitis .. .. .	15	4	419	1
	7. Conjunctivitis .. .. .	1	—	499	1
	8. Keratitis .. .. .	—	—	3	—
	9. Corneal Opacities .. .. .	—	—	2	—
	10. Other Conditions (excluding Defective Vision and Squint) ..	1	4	679	14
	TOTAL (Heads 6 to 10) ..	17	8	1,602	16
	11. Defective Vision (excluding Squint)	574	164	763	41
	12. Squint .. .. .	15	11	57	7
Ear	13. Defective Hearing .. .. .	30	11	49	2
	14. Otitis Media .. .. .	25	10	537	5
	15. Other Ear Diseases .. .. .	10	1	1,187	21
Nose and Throat	16. Chronic Tonsillitis only .. .. .	218	180	322	70
	17. Adenoids only .. .. .	64	17	37	14
	18. Chronic Tonsillitis and Adenoids ..	227	59	573	35
	19. Other Conditions .. .. .	54	25	2,233	116
	20. Enlarged Cervical Glands (Non-Tuberculous) ..	10	68	298	30
	21. Defective Speech .. .. .	16	16	28	5
Heart and Circulation	Heart Disease—				
	22. Organic .. .. .	41	44	30	8
	23. Functional .. .. .	14	50	12	12
	24. Anaemia .. .. .	25	169	154	11
Lungs	25. Bronchitis .. .. .	35	126	520	64
	26. Other Non-Tuberculous Diseases ..	1	41	638	85
Tuber- culosis	Pulmonary—				
	27. Definite .. .. .	4	1	5	2
	28. Suspected .. .. .	23	16	66	7
	Non-Pulmonary—				
	29. Glands .. .. .	6	10	17	3
	30. Bones and Joints .. .. .	1	—	1	—
	31. Skin .. .. .	—	—	—	—
	32. Other Forms .. .. .	3	—	5	4
	TOTAL (Heads 29 to 32) ..	10	10	23	7
Nervous System	33. Epilepsy .. .. .	—	6	7	1
	34. Chorea .. .. .	1	6	24	8
	35. Other Conditions .. .. .	2	20	208	63
Deformities	36. Rickets .. .. .	—	—	3	—
	37. Spinal Curvature .. .. .	40	19	8	—
	38. Other Forms .. .. .	87	37	71	14
	39. Other Defects and Diseases (excluding Defects of Nutrition, Uncleanliness and Dental Diseases) ..	155	220	8,323	696
	TOTAL NUMBER OF DEFECTS	1,728	1,543	23,543	1,359

TABLE II (Continued)

B.—CLASSIFICATION OF THE NUTRITION OF CHILDREN INSPECTED DURING THE YEAR IN THE ROUTINE AGE GROUPS.

Age-groups.	Number of Children Inspected	A (Excellent)		B (Normal)		C (Slightly subnormal)		D (Bad)	
		No.	%	No.	%	No.	%	No.	%
Entrants ..	5,142	1,085	21.1	3,597	69.95	453	8.81	7	0.14
Second Age-group	5,913	1,384	23.4	3,888	65.75	632	10.7	9	0.15
Third Age-group	5,366	1,532	28.55	3,303	61.55	521	9.71	10	0.19
Other Routine Inspections..	178	42	23.6	129	72.47	7	3.93	—	—
TOTAL ..	16,599	4,043	24.36	10,917	65.77	1,613	9.71	26	0.16

TABLE III.

RETURN OF ALL EXCEPTIONAL CHILDREN IN THE AREA.

BLIND CHILDREN :—

At Certified Schools for the Blind	At Public Elementary Schools	At other Institutions	At no School or Institution	Total
19	—	—	—	19

PARTIALLY SIGHTED CHILDREN :—

At Certified Schools for the Blind	At Certified Schools for the Partially Sighted	At Public Elementary Schools	At other Institutions	At no School or Institution	Total
—	47	4	—	—	51

DEAF CHILDREN :—

At Certified Schools for the Deaf	At Public Elementary Schools	At other Institutions	At no School or Institution	Total
29	—	—	—	29

PARTIALLY DEAF CHILDREN :—

At Certified Schools for the Deaf and Partially Deaf	At Public Elementary Schools	At other Institutions	At no School or Institution	Total
9	1	—	—	10

TABLE III (Continued).

## MENTALLY DEFECTIVE CHILDREN (FEEBLE-MINDED CHILDREN) :—

At Certified Schools for Mentally Defective Children	At Public Elementary Schools	At other Institutions	At no School or Institution	Total
165	—	—	—	165

## EPILEPTIC CHILDREN (CHILDREN SUFFERING FROM SEVERE EPILEPSY) :—

At Certified Special Schools	At Public Elementary Schools	At other Institutions	At no School or Institution	Total
4	—	—	3	7

## PHYSICALLY DEFECTIVE CHILDREN :—

(a) *Tuberculous Children.*I.—Children suffering from Pulmonary Tuberculosis  
(Including pleura and intra-thoracic glands).

At Certified Special Schools	At Public Elementary Schools	At other Institutions	At no School or Institution	Total
36	—	1	27	64

## II.—Children suffering from Non-Pulmonary Tuberculosis.

(Includes Tuberculosis of all sites other than those shown in (I) above).

At Certified Special Schools	At Public Elementary Schools	At other Institutions	At no School or Institution	Total
58	12	1	20	91

(b) *Delicate Children.*

At Certified Special Schools	At Public Elementary Schools	At other Institutions	At no School or Institution	Total
170	338	16	35	559

(c) *Crippled Children.*

At Certified Special Schools	At Public Elementary Schools	At other Institutions	At no School or Institution	Total
84	44	5	8	141

TABLE III (Continued).

(d) Children with Heart Disease.

At Certified Special Schools	At Public Elementary Schools	At other Institutions	At no School or Institution	Total
55	—	8	13	76

## CHILDREN SUFFERING FROM MULTIPLE DEFECTS :—

Combination of Defect	At Certified Special Schools	At Public Elementary Schools	At other Institutions	At no School or Institution	Total
Mental Defect and Crippling ..	17	—	—	4	21
Crippling and Heart Disease..	—	—	—	1	1

TABLE IV.—RETURN OF DEFECTS TREATED DURING THE YEAR ENDED 31ST DECEMBER, 1938.

## TREATMENT TABLE

Group I.—Minor Ailments (excluding Uncleanliness, for which see Table VI.).

Disease or Defect. (1)	Number of Defects treated, or under treatment during the year.		
	Under the Authority's Scheme. (2)	Otherwise. (3)	Total. (4)
<i>Skin—</i>			
Ringworm Scalp—			
(i) X-Ray Treatment .. ..	17	—	17
(ii) Other " .. ..	14	—	14
Ringworm Body .. ..	172	3	175
Scabies .. ..	250	3	253
Impetigo .. ..	2,803	2	2,805
Other Skin Disease .. ..	2,414	47	2,461
<i>Minor Eye Defects—</i>			
(External and other, but excluding cases falling in Group II). .. ..	1,725	32	1,757
<i>Minor Ear Defects</i> .. ..	1,555	57	1,612
<i>Miscellaneous</i> .. ..			
(e.g. minor injuries, bruises, sores, chilblains, etc.) .. ..	9,096	373	9,469
Total .. ..	18,046	517	18,563



TABLE IV—(Continued).

Group II.—*Defective Vision and Squint* (excluding Minor Eye Defects treated as Minor Ailments—Group I).

	Number of Defects dealt with.		
	Under the Authority's Scheme.	Otherwise.	Total.
Errors of Refraction (including squint) ..	3,806	43	3,849
Other defect or disease of the eyes (excluding those recorded in Group I) .. ..	8	—	8
Total .. .. .	3,814	43	3,857
No. of Children for whom Spectacles were :	Under the Authority's Scheme.	Otherwise.	Total.
(a) Prescribed .. .. .	2,099	43	2,142
(b) Obtained .. .. .	910	1,222	2,132

Group III.—*Treatment of Defects of Nose and Throat.*

Number of Defects.													
Received Operative Treatment												Received other forms of Treatment. (4)	Total number treated. (5)
Under the Authority's Scheme, in Clinic or Hospital. (1)				By Private Practitioner or Hospital apart from the Authority's Scheme. (2)				Total (3)					
(i)	(ii)	(iii)	(iv)	(i)	(ii)	(iii)	(iv)	(i)	(ii)	(iii)	(iv)		
—	—	—	—	113	21	473	20	113	21	473	20	514	1,141

(i) Tonsils only. (ii) Adenoids only. (iii) Tonsils and adenoids. (iv) Other defects of the nose and throat.

Group IV.—*Orthopaedic and Postural Defects.*

	Under the Authority's Scheme. (1)			Otherwise. (2)			Total number treated
	Residential treatment with education	Residential treatment without education	Non-residential treatment at an orthopaedic clinic	Residential treatment with education	Residential treatment without education	Non-residential treatment at an orthopaedic clinic	
	(i)	(ii)	(iii)	(i)	(ii)	(iii)	
Number of Children treated	59	27	342	—	6	29	419

TABLE V.  
*Dental Inspection and Treatment.*

(1) Number of Children inspected by the Dentist—

(a) Routine age-groups :

AGE	5	6	7	8	9	10	11	12	13	14	TOTAL
Number	2,393	4,379	4,585	4,519	4,402	4,479	4,446	4,131	4,068	2,996	40,398
(b) Specials .. .. .											3,316
(c) TOTAL (Routine and Specials)											43,714
(2) Number found to require treatment											35,719
(3) Number actually treated .. .. .											22,728
(4) Attendances made by children for treatment											44,789
(5) Half-days devoted to :											
Inspection .. .. .									337		
*Treatment .. .. .									4,042		
Total .. .. .											4,379
(6) Fillings :											
Permanent Teeth .. .. .									17,958		
Temporary Teeth .. .. .									1,087		
Total .. .. .											19,045
(7) Extractions :											
Permanent Teeth .. .. .									9,853		
Temporary Teeth .. .. .									36,480		
TOTAL .. .. .											46,333
(8) Administrations of general anaesthetics for extractions											15,828
(9) Other Operations :											
Permanent Teeth .. .. .									8,189		
Temporary Teeth .. .. .									944		
Total .. .. .											9,133

\* In addition to this number, the Dentists devoted 225 sessions to the treatment of mothers and young children under the scheme of the Education Committee and the Maternity and Child Welfare Committee.

The above figures refer to Elementary School children only.

TABLE VI.  
*Uncleanliness and Verminous Conditions.*

(1) Average number of visits per school made during the year by School Nurses ..	7.7
(2) Total number of examinations of children in the Schools by School Nurses ..	75,374
(3) Number of <i>individual</i> children found unclean .. .. .	3,330
(4) Number of <i>individual</i> children cleansed under Section 87 (2) and (3) of the Education Act, 1921 .. .. .	—
(5) Number of cases in which legal proceedings were taken :—	
(a) Under the Education Act, 1921 .. .. .	—
(b) Under School Attendance Byelaws .. .. .	12

TABLE I. (SECONDARY).  
NUMBER OF SCHOLARS INSPECTED 1ST JANUARY, 1938,  
TO 31ST DECEMBER, 1938.

## A.—ROUTINE MEDICAL INSPECTION.

Age	10	11	12	13	14	15	16	17	18	19	20	Grand Total
Boys	80	251	192	225	157	121	62	11	6	—	—	1,105
Girls	36	110	165	135	80	50	24	9	2	—	—	611
Totals	116	361	357	360	237	171	86	20	8	—	—	1,716

## B.—OTHER INSPECTIONS.

Number of Special Inspections	..	..	..	424
Number of Re-inspections	..	..	..	280
Total	..	..	..	704

## C.—SCHOLARS FOUND TO REQUIRE TREATMENT.

Number of Scholars		Percentage of Scholars found to require treatment.
Inspected	Found to require treatment	
1,716	*153	8.9

\* Excluding Malnutrition, Uncleanliness and Dental Disease.

TABLE II. (SECONDARY).  
RETURN OF DEFECTS FOUND IN COURSE OF MEDICAL INSPECTION.

Defect or Disease	Routine Inspections.		Special Inspections	
	Number referred for treatment.	Number requir- ing to be kept under observa- tion but not re- quiring treat- ment.	No. of Defects	
1	2	3	4	5
Malnutrition .. ..	4	7	—	—
Skin and Hair .. ..	5	1	22	—
Teeth .. ..	144	8	1	—
Nose and Throat .. ..	20	2	12	—
Glands .. ..	1	4	2	—
External Eye Disease	—	1	10	—
Vision .. ..	94	7	9	—
Colour Sense .. ..	—	—	—	—
Ear Disease .. ..	1	—	5	—
Hearing .. ..	1	—	1	—
Speech .. ..	—	—	—	—
Thorax .. ..	—	—	—	—
Heart and Circulation	4	5	1	—
Anaemia .. ..	—	7	3	—
Lungs .. ..	4	9	3	—
Nervous system—				
Headache .. ..	—	2	—	—
Overstrain .. ..	—	—	3	1
Indigestion .. ..	—	—	—	—
Constipation .. ..	—	1	—	—
Spinal Curvature .. ..	6	5	—	—
Flat Foot .. ..	9	7	—	—
Other Deformity .. ..	4	3	3	—
Other Defect .. ..	10	8	57	1
Catamenia .. ..	—	1	—	—

TABLE III. (SECONDARY).  
RETURN OF DEFECTS TREATED.

## TREATMENT TABLE.

## Group I.—Minor Ailments.

Disease or Defect. (1)	Number of Defects treated, or under treatment during the year.		
	Under the Authority's Scheme. (2)	Otherwise. (3)	Total. (4)
<i>Skin—</i>			
Ringworm Scalp—			
(i) X-ray treatment .. ..	—	—	—
(ii) Other .. ..	—	—	—
Ringworm Body .. ..	—	—	—
Scabies .. ..	—	—	—
Impetigo .. ..	5	—	5
Other Skin Disease .. ..	7	2	9
<i>Minor Eye Defects—</i>			
(External and other, but excluding cases falling in Group II) .. ..	21	—	21
<i>Minor Ear Defects</i> .. ..	8	—	8
<i>Miscellaneous</i> (e.g. minor injuries, bruises, sores, chilblains, etc. .. ..	51	5	56
Total .. ..	92	7	99

TABLE III. (SECONDARY). (*continued*).

## TREATMENT TABLE.

## Group II.—Defective Vision and Squint (excluding Minor Eye Defects treated as Minor Ailments—Group I).

	Number of Defects dealt with.		
	Under the Authority's Scheme.	Otherwise.	Total.
Errors of Refraction (including squint) ..	216	3	219
Other defect or disease of the Eyes (excluding those recorded in Group I) .. ..	—	—	—
Total .. ..	216	3	219
	Under the Authority's Scheme.	Otherwise.	Total.
Number of Scholars for whom Spectacles were :			
(a) Prescribed .. ..	123	3	126
(b) Obtained .. ..	9	117	126



TABLE III. (SECONDARY). (continued).

## TREATMENT TABLE.

Group III.—Treatment of Defects of Nose and Throat.

Number of Defects.													
Received Operative Treatment.												Received other forms of Treatment. (4)	Total number treated. (5)
Under the Authority's Scheme, in Clinic or Hospital. (1)				By Private Practitioner or Hospital apart from the Authority's Scheme. (2)				Total (3)					
(i)	(ii)	(iii)	(iv)	(i)	(ii)	(iii)	(iv)	(i)	(ii)	(iii)	(iv)		
—	—	—	—	—	—	4	2	—	—	4	2		

(i) Tonsils only.

(ii) Adenoids only.

(iii) Tonsils and Adenoids.

(iv) Other defects of the nose and throat.

TABLE III. (SECONDARY). (continued).

## TREATMENT TABLE.

Group IV.—Orthopaedic and Postural Defects.

	Under the Authority's Scheme. (1)			Otherwise. (2)			Total number treated
	Residential treatment with education	Residential treatment without education	Non-residential treatment at an orthopaedic clinic	Residential treatment with education	Residential treatment without education	Non-residential treatment at an orthopaedic clinic	
	(i)	(ii)	(iii)	(i)	(ii)	(iii)	
Number of Scholars treated	2	1	24	—	—	3	27

TABLE IV. (SECONDARY).

## DENTAL INSPECTION AND TREATMENT.

(1) Number of Scholars inspected by the Dentist—

(a) Routine age-groups :

AGE	11	12	13	14	15	16	17	Total
Number	2	44	41	41	29	23	18	198

(b) Specials .. .. . 108

(c) TOTAL (Routine and Specials) .. .. . 306

(2) Number found to require treatment .. .. . 258

(3) Number actually treated .. .. . 248

(4) Attendance made by Scholars for treatment .. .. . 721

(5) Half-days devoted to : Inspections .. .. . 2

Treatment .. .. . —

(6) Fillings : Permanent Teeth .. .. . 505

Temporary Teeth .. .. . —

Total .. .. . 505

(7) Extractions : Permanent Teeth .. .. . 205

Temporary Teeth .. .. . 32

Total .. .. . 237

(8) Administrations of general anaesthetics for extractions .. .. . 136

(9) Other Operations : Permanent Teeth .. .. . 175

Temporary Teeth .. .. . —

Total .. .. . 175

1938

**REPORT**

OF THE

**MENTAL DEFICIENCY ACTS COMMITTEE**

---

Council House, Bristol.

**MENTAL DEFICIENCY ACTS COMMITTEE.**

*Council Members :*

The Rt. Hon. The Lord Mayor (Alderman W. A. Winchester, J.P.).  
A. Jones, Esq. (Chairman).  
Mrs. A. A. Nunn (Vice-Chairman).  
Alderman W. H. Byrt, J.P.  
F. J. Burgess, Esq.  
Mrs. D. P. Dobson, J.P.  
G. H. Johnson, Esq.  
W. S. Scull, Esq.  
W. T. Wright, Esq.

*Non-Council Members :*

Mrs. Watson Allan.  
Mrs. A. E. M. Hampton.  
Mrs. V. E. Pullin.

---

Josiah Green, Esq., *Town Clerk*.  
E. M. Tapson, Esq., F.S.A.A., F.I.M.T.A., *City Treasurer*.  
R. H. Parry, Esq., M.D., B.Sc., M.R.C.P. Lond., D.P.H.,  
*Medical Officer of Health*.

---

**Officers of the Colony.**

John F. Lyons, Esq., L.R.C.P. & S.I., D.P.H., D.P.M.,  
*Medical Superintendent*.  
G. de M. Rudolf, Esq., M.R.C.P., M.R.C.S., D.P.H., D.P.M.,  
*Visiting Medical Psychologist*.  
John Fellows, Esq., M.C.S.A., *Steward*.  
Miss Margaret E. Hogarth, *Matron*.  
Rev. A. Walmsley, *Chaplain* (Church of England).  
Rev. C. Feneley, *Chaplain* (Nonconformist).  
Rev. Father B. J. Ellis, *Chaplain* (Roman Catholic).

---

**Consulting Staff.**

R. R. Garden, Esq., M.A., M.B., Ch.B., D.P.H., D.O.M.S. Lond.  
G. R. Scarff, Esq., M.B., Ch.B., F.R.C.S., Edin.  
H. M. S. Chitty, Esq., M.B., M.S. Lond., F.R.C.S. Eng., L.R.C.P. Lond.  
J. A. Nixon, Esq., C.M.G., B.A., M.D. Camb., F.R.C.P. Lond.

**MENTAL DEFICIENCY ACTS, 1913-1938.**

---

The Mental Deficiency Regulations, 1935, require the local authority to make a report to the Board of Control for the year ended on the 31st December preceding, on the performance of their duties under the Acts : and also require the Committee to report to the local authority as to the condition of the institutions managed by them.

The following report is in respect of the year 1938.

Part I deals with Hortham Colony.

Part II deals with the domiciliary work connected with defectives carried out by the Medical Officer of Health.

Article 54 of the Regulations provides also for the submission of financial statements for the year ended the 31st March. A statement prepared by the City Treasurer shewing the expenditure of the Council in respect of mental deficiency will be found on pages 18 and 19.

A. JONES,

*Chairman.*

THE COUNCIL HOUSE,

BRISTOL,

*May, 1939.*



## HORTHAM COLONY.

*To the Chairman and Members of the  
Mental Deficiency Acts Committee.*

Mr. Chairman, Ladies and Gentlemen,

I have the honour to submit my report for the year ended 31st December, 1938.

				Adults.		Children.		Total
				M.	W.	B.	G.	
Number of patients	resident	...	...	171	203	145	88	607
"	"	on licence	...	65	84	20	8	177
"	"	absconded	...	3	3	—	—	6
"	"	at Hospitals	...	1	—	1	—	2
"	"	at Mental Hospi- tals	...	—	2	—	—	2
				240	292	166	96	794
Bristol cases in residence	...	...	...	77	90	88	47	302
"	"	on licence, etc.	...	42	46	16	5	109
				119	136	104	52	411
Out-county cases in residence	...	...	...	94	113	57	41	305
"	"	on licence, etc.	...	27	43	5	3	78
				121	156	62	44	383
<i>Movements of Patients during year.</i>				M.		F.		Total
Admitted	...	...	...	51		34		85
Discharged and Removed	...	...	...	40		30		70
Proceeded on licence	...	...	...	48		84		132
Returned from licence	...	...	...	21		61		82
Written off books whilst on licence	...	...	...	6		18		24
Deaths	...	...	...	7		7		14
Removed to Mental Hospital	...	...	...	1		1		2
<i>Classification of Patients in Residence at 31st December, 1938.</i>				M.		F.		Total
Idiots	...	...	...	31		14		45
Imbeciles	...	...	...	101		94		195
Feeble-minded	...	...	...	184		183		367
				316		291		607

## Health.

Apart from a slight increase in the incidence of infectious diseases, which have occurred sporadically throughout the year, the health of the patients has been satisfactory and in many cases there has been a marked improvement in physical condition.

Accidental injuries resulting in fractures of bones have occurred in the case of 6 patients, all of whom have recovered without any impairment of function.

Members of the consultant staff have visited as required and all patients requiring special treatment have been examined and treated to their instructions. 59 X-ray examinations have been carried out at Southmead Hospital where special surgical treatment has been provided for 13 patients. I have to acknowledge the ready co-operation and assistance received at all times from Dr. P. Phillips, the Medical Superintendent of this hospital.

### Conduct.

There is a happy atmosphere here, both in hours of work and leisure, which is a good introduction to Colony life for new arrivals. With high grade patients a certain amount of restlessness is to be expected, especially in the earlier stages of their segregation, but once they can be made to realize that a genuine endeavour is being made to help those who will help themselves and that it is those who succeed, they soon conform to colony life and endeavour to play their part to the utmost of their capacity. Occasional lapses occur but these are exceptional and mostly of a minor nature.

During the year, 6 patients absconded from the Colony; one is still untraced and the remainder were returned within periods of from 2 to 15 days. 5 patients absconded from licence, 4 of whom are still untraced.

Licence.

The number of patients on licence has shown a steady increase each year and at the end of the present year there were 177 patients so placed as follows :—

Living at home and in employment.		Living elsewhere and in employment.		Weekly wages earned.								TOTAL ON LICENCE		
				Up to 15s.		15s. to 30s.		30s. to 45s.		45s. to 60s.				
M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
33	11	16	34	18	38	19	6	6	1	6	—	49	45	
												Patients on licence in Hostels ...	6	29
												Patients on licence and unemployed	30	18
												TOTAL ON LICENCE ...	85	92

### **Daily Work.**

Eleven adult male patients are employed daily on farm or garden work with local employers at a wage of 10/- per week, half of which goes towards their maintenance, the remainder being credited to their account in the Patients' Bank. These patients are proving very reliable in their going to and from work and are giving satisfaction to their employers.

### **Industrial Training.**

The high standard of efficiency which has been attained in our workshops in the course of years has been well maintained. Although training is the first consideration in these workshops, very genuine work is done by the patients, so much so, that we can now completely satisfy our requirements in such directions as male clothing, including staff uniforms, footwear, brushes, and the bulk of our requirements in female clothing, in addition to the repair and remaking of mattresses. It is interesting to note that in addition to providing for our own requirements the male workshops carry out work for other Institutions and departments of the Corporation. Male patients also assist in the general maintenance work, being employed in association with the artisans in their various trades.

There has been a great improvement in the standard of work in the handicraft department where a variety of attractive needlework, including some very fine tapestry, has been carried out by the lower grade patients in a way that reflects great credit on the Instructress. Fancy needlework is also done in the lodges as a spare time occupation and several communal articles have been completed.

A good crop of potatoes of about 90 tons has been grown on the farm which has supplied our requirements in the way of vegetables. 940 pigs were bred; of these 774 were disposed of to other departments of the Corporation and 105 were killed for our own use as pork and bacon which is home cured.

The care and layout of the grounds occupies a large number of patients who are mostly of the lower grade. Good progress has been made in the planting of trees, provision of extra flower beds and the laying-out of lawns. One of the most outstanding achievements in this department has been the making of a first-class bowling green. The new greenhouse, in addition to providing plants for bedding and flowers for ward decoration, provides a useful source of training in advanced gardening for the higher grade patients who take a great interest in the work.

Practically all the domestic work of the Colony is done by patients, and every endeavour is made to provide an all-round training in this direction, including instruction in cooking, which will be a recommendation for employment in domestic service.

As already stated, training is the primary consideration in our industrial activities, but it is satisfactory to be able to record that there has been a surplus over all expenses, including wages, on our workshops and farm, and in this respect I must acknowledge the very considerable part which our steward has played in his management of the commercial side of the work.

Details of the work carried out in the various departments during the year are as follows :—

*Tailor.*

Average number of patients employed : 12.

Patients garments made	...	...	...	896
Staff uniforms made	...	...	...	565
Miscellaneous made...	...	...	...	85
Articles repaired	...	...	...	7,443

*Bootmaker.*

Average number of patients employed : 16.

Boots and shoes made, including surgical boots, etc.	...	...	...	1,200 pairs
Boots and shoes repaired	...	...	...	7,300 ..

*Brush Shop.*

Average number of patients employed : 19.

Brushes made	...	...	...	10,184
Mats made	...	...	...	199
Mats repaired	...	...	...	53

*Carpenter.*

Average number of patients employed : 4.

Articles made	...	...	...	277
Articles repaired	...	...	...	604

*Bakery.*

Average number of patients employed : 4.

Number of quartern loaves	...	...	49,807
Number of fancies, buns, rolls, scones, etc.	...	...	61,382
Cake	...	...	7,928 lbs.

*Maintenance.*

Average number of patients employed : 17.

Instructional Carpenter	...	...	...	5
Fitters and Boiler House	...	...	...	2
Sewage Plant	...	...	...	3
Laundry	...	...	...	2
Maintenance Carpenter	...	...	...	1
Mason	...	...	...	1
Painters	...	...	...	3

*Gardens.*

Average number of patients employed : 40.

*Sewing Room.*

Average number of patients employed : 30.

Number of articles made	...	...	9,511
Number of articles repaired	...	...	15,133



*Handicrafts.*

Average number of patients employed : 39.

Number of articles made	...	...	...	1,418
Number of articles repaired	...	...	...	12,930

*Laundry.*

Average number of patients employed : 43.

Number of articles laundered	...	...	787,470
------------------------------	-----	-----	---------

*Farm.*

Average number of patients employed : 17.

Potatoes	...	...	...	...	90 tons
Greens	...	...	...	...	20 tons
Other crops, roots, etc.	...	...	...	...	30 tons
Pork supplied	...	...	...	...	41 cwts.
Mutton supplied	...	...	...	...	19 cwts.
Bacon supplied	...	...	...	...	74 cwts.
Pigs sold	...	...	...	...	774

**School.**

Under the new arrangement of staffing, which came into operation in the late months of the year, an assistant to the School Supervisor and two junior assistants have been appointed. In addition to these full time teachers, two female nurses and one male nurse are employed whole time for teaching purposes for a period of six months. The new arrangement has many advantages, the chief of which is that it avoids those frequent changes of staff which have, in the past, interfered so much with the sequence of school training. The School Supervisor reports marked progress as a result of this reorganisation.

**Recreations.**

Leisure hours have been well provided for by the usual round of entertainment which includes dances, cinema shows, whist drives, and outdoor recreations such as tennis, cricket, bowls, hockey, football and organised games. Bowls is very popular with the male patients, several of whom are included in the Colony team which has played matches regularly both at home and away.

Individual musical instruction in the piano, violin and piano accordion is given by members of the staff to patients who show any aptitude. A fife and drum band, which was started during the year, is now very efficient and has evoked great interest by its appearance at local shows. The weekly route march in the grounds to the accompaniment of this band is much enjoyed by male and female patients and as a result there is a noticeable improvement in their bearing and carriage.

A "Keep-Fit" class, which owes its origin to the initiative of some of the Guides, has been taken up with great enthusiasm and several finished displays have been given in public.

Tap-dancing is a very popular recreation and the troupe of female patients gave a very creditable performance on the occasion of the R.M.P.A. Meeting which was held here in April and in the Christmas concert which was outstandingly good this year.

Three concerts have been given by the Patients' Choral Society which was started during the year under the direction of the Choir master.

The female patients are very interested in hockey and have been doing much better this year in their matches against outside teams. The football team has not been very successful so far but there is great enthusiasm and the patients enjoy their games very much. The cricket team has had a very successful season.

### **Camp.**

We made a very bad start at our Camp which was held at Brean Down from 1st June to 14th July, for a gale which sprang up on the first night razed the camp to the ground and tore several of the tents to shreds. We were fortunate in that a camp close by provided temporary accommodation for our 100 female patients and in the morning we had to bring them all back to the Colony. The result of the expeditious work of the relief party which was sent down the patients returned after 5 days and had a very enjoyable time for the remainder of their holiday.

The children's party, which numbered 83, was more fortunate in the weather, and though the male party experienced some difficulty from gales they also had a very successful camp.

The total number of patients who enjoyed the privilege was 286.

### **Scouts and Guides.**

GUIDES.	1st Hortham Company	...	...	Strength :	22
				Officers :	1
	2nd Hortham Company	...	...	Strength :	76
				Officers :	1
SCOUTS.	207th City of Bristol :				
	1st Hortham Group.	A Troop		Strength :	56
		B Troop		Strength :	15
				Officers :	6

Scouting and Guiding are now well established and play a very important part in the training by providing a high standard of conduct which the members are expected to live up to and the many transformations which have been experienced in difficult and unreliable patients through association with the movements is gratifying evidence of the benefit which can be derived. During the year 27 Guides and 16 Scouts were granted licence.

### **R.M.P.A. Meeting.**

On the invitation of your Committee, the Annual Spring Meeting of the Royal Medico-Psychological Association was held in the Colony on 28th April. The guests were received by the Lord Mayor (Alderman J. J. Milton, J.P.), accompanied by the Lady Mayoress, who presided at the luncheon and gave an address of welcome to the visitors. The attendance included Dr. W. Rees Thomas, Miss R. Darwin, Dr. E. O. Lewis and Dr. J. Adamson, Commissioners of the Board of Control, Dame Pinsent, Alderman Frank Sheppard, O.B.E., and representatives from Mental Hospitals throughout the country.

Many letters of appreciation have been received on the success of the meeting and on the good work that is being done in the Colony.

### **Alderman F. Sheppard, C.B.E., M.A., J.P.**

It was with great regret that we learned towards the end of the year that Alderman Sheppard has decided to resign the Chairmanship of our Committee, a position which he had held since 1920.

Alderman Sheppard has endeared himself to us all by his friendliness, kindly consideration, and his very human outlook on life. It can truly be said of him that he *made* Hortham and in testimony to him it will be our endeavour to develop further on the foundations of its success which he so securely laid.

### **Religious Services.**

Religious services are well attended and though this is compulsory for patients who are capable of understanding the nature of the service, little difficulty is experienced in getting them to attend. Your Chaplains are very interested in the training of the patients, and in the conduct of the Services display an understanding of those with whom they are dealing.

### **Original Investigations.**

#### *Histamine and Insulin Treatment. Interim Report.*

The use of histamine and insulin in the treatment of Schizophrenia was first published in July, 1938 and in the following month a beginning was made at the Colony with this treatment. Although schizophrenic cases showing complete types of the condition are transferred to mental hospitals, some defectives show symptoms similar to those of the complete condition. Of such cases, 4 have now received the full course of treatment and 5 are still receiving treatment. Of the 4 cases completely treated, one shows a definite improvement, one a slight improvement and two have remained stationary.

The time is too short to estimate the value of this treatment as there is no evidence at present that the two cases who improved may not relapse. A slight degree of improvement in patients with histories so long as in these cases suggests that the treatment may be of value in cases with short histories of illness. I have found indications elsewhere that such is the case.

#### *Intelligence Testing. Interim Report.*

(By Dr. G. de M. RUDOLF).

The results of testing intelligence by means of Kent's Oral Test have been studied in 367 adult defectives with mental ages of from 7 to 12 years inclusive. The results show that the Test items show a general systematic grading upwards so that this Test appears reliable for comparative purposes. Male defectives have been found to learn more rapidly than females. Further investigations are proposed.

Cattell's Scale of Tests has been used in many cases as an alternative to the standard Binet-Simon Tests. The advantage of the Cattell Scale appears to be that the personality of the examiner can influence the defective less than in the Binet-Simon Tests.

### **Board of Control.**

Dr. Isobel G. H. Wilson and Miss M. A. Thomas of the Board of Control visited the Colony on 8th June. A copy of the report on the visit has been circulated to the members of the Committee.

### **Staff.**

Some difficulty was experienced in obtaining female staff in the early months of the year but no serious shortage has occurred and we are now up to full strength.

The health of the staff has been very satisfactory, the average absence through illness being less than in previous years. One male nurse developed pulmonary tuberculosis early in the year and is still absent from duty.

The Senior Charge Male Nurse resigned his position on the staff on 10th March to take up the appointment of Chief Male Nurse at Langdon Colony, Starcross, Devon.

Recreational facilities have been increased during the year through your kind provision of a hard tennis court, and club room with billiard table, etc.

There is much musical talent amongst the staff and this is reflected in the Colony Orchestra which adds so much to our various functions and in the progress which has been made in the musical training of patients which was started this year.

It is a great pleasure to me to have to acknowledge the loyalty and ready co-operation I have received from all members of the staff; the success of our work here has been largely due to the whole-hearted way they have given of their best in the interests of the Colony.

### **Miscellaneous.**

The number of seats around lodges has been increased and the male and female recreation fields have now been also well provided for in this direction.

An extra dressing room and lavatories have been added to the Sports Pavilion.

A greenhouse 60 ft.  $\times$  15 ft. has been erected.

The 4th edition of the Colony Journal was published in December last.

The buildings have been maintained in good repair, internal re-decorations having been undertaken as and when occasion required.



In conclusion, Mr. Chairman, Ladies and Gentlemen, I desire to thank you for your great interest in the work of the Colony and in the welfare of all and for your kind consideration which you have extended to me and to the staff generally at all times.

J. F. LYONS,

*Medical Superintendent.*

*April, 1939.*

## **PART II.**

### *Report of the Medical Officer of Health.*

*To the Chairman and Members of the  
Mental Deficiency Acts Committee.*

I have the honour to submit the following report on the domiciliary work of the Committee under the Mental Deficiency Acts, 1913-1938 for the year ended the 31st December, 1938.

### **Administrative Arrangements.**

The administrative arrangements for the discharge of the Council's duties under the Mental Deficiency Acts, 1913—1938, apart from the control of Hortham Colony and the collection of contributions towards patients' maintenance, is, as hitherto, carried out by specially appointed officers under the supervision of the Medical Officer of Health.

### **Staff.**

Miss M. H. Tonkin retired from the service on the 31st December, 1938, after a period of untiring and zealous duty.

Additional appointments to the visiting staff have been made during the year.

The office of the Supervising Officer and his staff has been transferred to Sussex Street Occupation Centre, enabling a closer supervision to be maintained over the Occupation Centre.

### **Ascertainment.**

The new cases which the Local Authority were called upon to deal with during 1938 under the Mental Deficiency Acts were :—

<i>Number.</i>		<i>Source of information.</i>
43	...	Local Education Authority.
3	...	Public Assistance Committee.
1	...	Police.
21	..	Miscellaneous.
<hr/>		
68		
<hr/>		

These cases were dealt with as follows :—

16	...	Sent to institutions.
41	...	Placed under supervision.
—	...	Placed under guardianship.
11	...	No action taken.
<hr/>		
68		
<hr/>		

In addition, on the 31st December, 1938, there were 165 defectives in attendance at Special Schools under the control of the Local Education Authority.

The number of defectives on the 31st December, 1938, ascertained by the Council subject to be dealt with or who might become subject to be dealt with, was 1719.

The ratio of ascertained cases per 1,000 of the population of Bristol is 4.14.

### **Supervision.**

The supervision of mentally defective persons is carried out by specially appointed officers of the Corporation under the supervision of Mr. W. E. Price, the Supervising Officer.

At the 31st December, 1938, the number of cases under supervision was 798.

### **Guardianship.**

On the 31st December, 1938 the number of cases under guardianship was 73.

During the year 194 licences were issued in respect of institution cases and 2 in respect of guardianship cases.

61 licences were withdrawn and 2 cases were transferred to guardianship.

During the past three years the number of cases on licence from institutions has almost doubled, the majority of such patients being in employment. There is a demand for unskilled labourers and errand boys, and no difficulty is experienced in placing suitable female patients in domestic service.

In June, 1938, a circular was received from the Board of Control indicating that it had been decided that the cases of all defectives who are still on licence at the end of the 2nd year after leaving the institution should be reviewed by the Board at that period, and at such further periods as the Board may determine. Accordingly, 45 cases of patients on licence for 2 years or more were considered, and recommendations made on the 15th July, 1938. Similar action has been taken in cases which have since completed 2 years' licence.

### **Discharges.**

During the year, 11 mental defectives were discharged from Order.

### **Deaths.**

There were 8 deaths among the institution and guardianship cases during the year.

### Occupation Centres.

The Occupation Centres, formerly carried on in 3 separate buildings in different parts of the city, are now concentrated at Sussex Street School premises, rented from the Local Education Authority, and have been reorganised. The development of the work of the Centres has been greatly facilitated as a result.

Changes in the staff engaged at the Centres have taken place during the year. In June last the Committee appointed a Lady Supervisor for the Centres, and subsequently appointed an Assistant. These appointees are well qualified for the work of teaching and training mental defectives, and both possess the R.M.P.A. Certificate.

The following classes are now held—

		<i>Sessions per week.</i>	<i>Daily average attendance.</i>
Adult male	...	5 days	23
Intermediate	...	5 days	9
Juveniles	...	5 days	20
Adult Female	...	5 half-days	18

There has been a decrease in the numbers attending the Centres, many of the patients having been placed in employment.

A mid-day meal is provided for all defectives attending the Centres for whole-time instruction. The meals are supplied from the Central Kitchen by the Local Education Authority.

In a number of cases, patients attending the Centres receive travelling tokens for use on the omnibuses or trams; children are conveyed to and from the Occupation Centre by motor cars.

The cost of meals and travelling is collected, where the means allow, from the parents of the patients, but no patient is denied attendance at the Centres by reason of inability to make a contribution.

Sales of articles made at the Occupation Centres have increased. The industrial sections have been fully employed in carrying out orders. In addition, certain work on the premises has been undertaken.

In November the Evening Club for adult male patients was re-opened, the formal opening being performed by Alderman Frank Sheppard, supported by the Chairman and members of the Committee and others.

A grant was made by the Committee towards the provision of suitable forms of recreation; various gifts to the Club have been made from time to time by members of the Committee.

### Camp.

As usual, a fortnight's holiday in camp at Brean was arranged for the adult male patients attending the Centres.

The adult female patients were given a holiday at Portishead.

### Medical Inspection.

The medical inspection and treatment of defectives attending the Occupation Centres is carried out through the clinics and hospitals attached to the health services of the city.

**Institutional Care.**

The following is a list of the institutions, etc., in which patients are being maintained by the Local Authority :—

Hortham Colony (Bristol cases)	...	411
Stapleton	... ..	124
Chasefield	... ..	22
Hermitage	... ..	2
Stoke Park Colony	... ..	8
Eagle House Hostel	... ..	4
St. Mary's Home	... ..	1
Besford Court	... ..	5
Rampton	... ..	29
Royal Fort	... ..	24
Royal Hostel	... ..	5
Old Rectory	... ..	1
Starcross	... ..	1
The Friars	... ..	1
Pield Heath House	... ..	1
Mount Tabor	... ..	1
		<hr/>
		640
		<hr/>

Of this total, 133 patients were absent from the institutions on licence.

R. H. PARRY, M.D.

*Medical Officer of Health.*

DEPARTMENT OF PUBLIC HEALTH,  
BRISTOL, 1.

*April, 1939.*



**GENERAL RATE FUND REVENUE ACCOUNT, YEAR ENDED 31st MARCH, 1939.**

EXPENDITURE.	£
<b>Maintenance of Defectives at Hortham Colony.</b>	
Salaries, Wages, etc. ....	15,169
Provisions ... ..	9,751
Clothing—	
Inmates ... ..	2,522
Staff Uniforms ... ..	279
Drugs, Medical & Surgical Appliances ...	2,801
Fuel, Light and Water ... ..	700
Cleaning, Materials & Laundry Wages ...	3,756
Furniture, Bedding, Linen, Hardware ...	1,287
Structural Alterations and Repairs ...	1,565
Upkeep of Grounds ... ..	1,672
Transport of Goods, etc. ....	616
Travelling Allowances ... ..	244
Miscellaneous Expenditure—	630
Printing, Postage, Advertising, Telephone, etc. ... ..	508
Awards to Patients ... ..	515
Recreation, and Miscellaneous ... ..	355
Maintenance in Hospitals ... ..	182
Construction of Hard Tennis Court... ..	200
Income Tax, Sch. A. ... ..	1,760
Tithe Rent, Rates, Insurance, etc. ...	50
City Treasurer's Dept. (proportion including Loans Management Expenses)	2,157
Loan Charges—	250
Interest ... ..	10,297
Contribution to Sinking Funds ... ..	7,521
	<hr/> 17,818 <hr/>

INCOME.	£
<b>Maintenance of Defectives at Hortham Colony.</b>	
Occupational Training Surplus ... ..	382
Farm Surplus ... ..	488
Deductions from Salaries and Wages under Asylum Officers' Superannuation Acts ... ..	870
Charges for Laundry ... ..	405
Services of Patients ... ..	10
Rents ... ..	52
Bank Interest ... ..	128
Sale of Garden Produce ... ..	350
Miscellaneous ... ..	27
	<hr/> 182 <hr/>
	2,024
<b>Maintenance of Cases.</b>	
Other Local Authorities, etc., for maintenance of cases at Hortham Colony Contributions under Voluntary Agreements, etc. ... ..	28,448
	<hr/> 1,005 <hr/>
	29,453
<b>Occupation Centres.</b>	
Sales of Work ... ..	48
Contributions to Fares, etc. ... ..	79
Other Local Authorities... ..	76
	<hr/> 203 <hr/>

**Maintenance of Defectives at Other Institutions, etc.**

At Institutions under Orders—	£	
Public Assistance Committee ...	6,889	
Other Institutions ...	3,432	
	<hr/>	
	10,321	
By Guardianship under Orders ...	3,059	
	<hr/>	
	13,380	
Removal and Other Expenses ...	113	13,493
	<hr/>	
<b>Occupation Centres.</b>		
Salaries, Wages, etc. ...	980	
Rent and Rates ...	212	
Fuel, Light, Water, Cleaning ...	96	
Repairs to Buildings, Furniture, etc. ...	84	
Provisions ...	304	
Materials ...	90	
Conveyance, Fares and Travelling ...	412	
Printing and Postage ...	12	
Summer Camp ...	35	
Miscellaneous ...	68	
	<hr/>	2,293
<b>Supervision and General Expenses.</b>		
Salaries, etc. ...	1,200	
Travelling Expenses ...	127	
Medical Fees for Examination of Cases ...	188	
Medical Fees by Order of Visiting Justices ...	143	
Postages, Printing and Telephone ...	50	
Grant to Central Association for Mental Welfare ...	20	
Miscellaneous ...	13	
Town Clerk's Dept. (proportion) ...	150	
City Treasurer's Dept. (do.) ...	140	
Medical Officer's Dept. (do.) ...	245	
City Valuer's Dept. (do.) ...	15	
	<hr/>	2,291
	<hr/>	<hr/>
	£78,303	
<b>Total Expenditure</b> ...		
		<b>Total Income</b> ...
		<hr/>
		£31,680

**HORTHAM COLONY WORKING ACCOUNTS, YEAR ENDED 31st MARCH, 1939.**

Account. (1)	Stock at 31st March, 1938. Brought Forward (2)	Purchases. Wages and Expenses. (3)	Surplus for the Year. (4)	Totals, Columns 2—4 and 6—8. (5)	Deficit for the Year. (6)	Sales and Transfers to other Accounts. (7)	Stock at 31st March 1939. Carried Forward. (8)
	£	£	£	£	£	£	£
<b>Clothing Conversion—</b>							
Tailor ... ..	363	691	70	1,124	—	657	467
Sewing Room ...	862	1,092	59	2,013	—	1,127	886
<b>Industries—</b>							
Brushmaking ...	538	863	108	1,509	—	1,096	413
Bootmaking ...	408	770	66	1,244	—	1,039	205
Baking ...	59	1,328	79	1,466	—	1,440	26
	£ 2,230	4,744	382	7,356	—	5,359	1,997
<b>Farm</b> ... ..	£ 1,446	2,411	488	4,345	—	3,020	1,325
Total Surplus ...			£870	Carried to Revenue Account.			